

$$\begin{aligned} & \text{P} \cdot \text{PeP} \cdot \text{P}_{\mu} \text{P}_{\text{j}} \text{P}_{\mu} \text{C}^{\text{f}} \text{C}, \text{P}^{\circ} \text{PS C}'' \text{PSP}_{\mu} \text{PsP} \pm \text{PsC}_{\text{H}} \text{PsC}, \text{PSP}_{\text{P}} \text{P}_{\text{j}} \text{C}^{\text{f}} \text{C}, \text{P}_{\mu} \text{C}_{\text{H}} \text{PsC} - \text{PrPSP}_{\text{P}} \text{P}_{\text{j}} \\ & \text{C} - \text{PSPiC} - \text{P} \pm \text{C} - \text{C}, \text{PsC}_{\text{H}} \text{PsP}_{\text{j}} \text{P}^{\circ} \text{C}_{\text{H}} \text{PsP}_{\text{j}} \text{P}^{\circ} \text{C}, \text{P}^{\circ} \text{P} \cdot \text{P}_{\text{e}}, \text{P}_{\text{i}} \text{PsPrC} - \text{P} \pm \text{PSP}_{\text{P}} \text{P}_{\text{j}} \text{P} \cdot \text{P}^{\circ} \text{C}^{\text{f}} \text{PIP}_{\text{S}} \text{C}'' \text{C}_{\text{H}} \end{aligned}$$

CГC, CГCГPеC, CГCГPсCГ PrPs PиCГPеCГPsPrPSPсC— CГPμC‡PsPIPеPSPе
 P°PSPPrCГPsCГC, PμPSPPrC—PsPs. PJ P¶C—PSPsPe Cr PиPμCГC—PsPr PиPsCГC, PjPμPSPsPиP°CГP·Pе
 PμCГC, CГPsPiPμPSPе PиCГPsPrCГPеCГCГC, CГCГCГC PиPμCГPμPIP°P¶PSPs C¶P»CГC...PsPj
 PиPμCГPμC, PIPсCГPμPSPSCГ P°PSPPrCГPsPiPμPSC—PI PSP° PμCГC, CГPsPiPμPSPе PиC—Pr
 PIPиP»PеPIPsPj C,, PμCГPjPμPSC, CГ P°CГPsPjP°C, P°P·Pе Cr PиPμCГPеC,, PμCГPеC‡PSPеC...
 C, PеP°PSPеPSP°C.... P°P»PsPeCГPIP°PSPSCГ CГC, PIPсCГPμPSPSCГ PμCГC, CГPsPiPμPSC—PI
 C¶P»CГC...PsPj C—PSPиC—P‡CГPIP°PSPSCГ P°CГPsPjP°C, P°P·Pе C” PμC,, PμPeC, PеPIPsPеPj C—
 CГPμP»PμPeC, PеPIPsPеPj PjPμC, PsPrPsPj P»C—PеCГPIP°PSPSCГ
 PиPsCГPjPsPSPsP·P°P»PμP¶PSPsPiPs CГP°PеCГ PjPsP»PsC‡PSPсC— P·P°P»PsP·Pе Cr P¶C—PSPsPe
 Cr PиPμCГC—PsPr PиPsCГC, PjPμPSPsPиP°CГP·Pе. PJ P¶C—PSPsPe Cr PиPμCГC—PsPr
 PиPsCГC, PjPμPSPsPиP°CГP·Pе PμPeP·PμPjPμCГC, P°PS CГCГC, C, C” PIPs P·PSPеP¶CГC”
 PеPsPSC‡PμPSC, CГP°C‡C—CГ PμCГC, CГPsPiPμPSC—PI Cr CГPеCГPsPIP°C, C‡C— PеCГPsPIC—,
 PиPsC‡PеPSP°CГC‡Pе P· PrPsP·Pе 5 PjPi. PҺP°PеCГPеPjP°P»CҺPSPμ P·PSPеP¶PμPSPSCГ
 (> 90 %) PrPsCГCГPиP°C”C, CГCГCГC PиCГPе P·P°CГC, PsCГCГPIP°PSPSC— PrPsP·Pе 10-25 PjPi. PJ
 PиP°C‡C—C”PSC, PsPe Cr PиPμCГC—PsPr PиPsCГC, PjPμPSPsPиP°CГP·Pе P· PrC—P°PiPsPsP·PsPj
 CГP°Pe PjPsP»PsC‡PSPсC— P·P°P»PsP·Pе, CГPeC— PsC, CГPеPjCГPIP°P»Pе 25 PjPi
 PμPeP·PμPjPμCГC, P°PSCr C%PsPrPμPSPSPs, P·P°PiP°P»CҺPSPеPNе CГC—PIPμPSCҺ
 P°CГPsPjP°C, P°P·Pе P·PSPеP¶CГPIP°PICГCГ PSP° 98 %.

P·PeP·PμPjPμCГC, P°PS PSPμ PjP°C” PиCГPsPiPμCГC, PsPiPμPSPSPсC— C, P°
 PμCГC, CГPsPiPμPSPSPсC— P°PeC, PеPIPsPsCГC, C— PкPμP·PSP°C‡PSP° aPSPPrCГPsPiPμPSPSP°
 P°PeC, PеPIPsC—CГC, CҺ, C—PjPsPIC—CГPSPs, PиPsPiBГ™ CГP·P°PSP° P· 17-
 PиC—PrCГPsPrPμCГPеPIP°C, PеPIPsPj, CГPиPsCГC, PμCГC—PiP°P»P°CГCГ PиPsP»PsPIPSPеPj
 C‡PеPSPsPj PиCГPе P·P°CГC, PsCГCГPIP°PSPSC— PμPeP·PμPjPμCГC, P°PSCr Cr PIPеCГPsPePеC...
 PrPsP·P°C.... PμC—Pr C‡P°CГ PrPsCГP»C—PrP¶PμPSCҺ C, CГPеPIP°P»PsPiPs
 C%PsPrPμPSPSPsPiPs P·P°CГC, PsCГCГPIP°PSPSCГ PμPeP·PμPjPμCГC, P°PS PSPμ PIPиP»PеPIP°PI
 PSP° P‡C—PsCГPеPSC, PμP· C, P°PePеC... PиPsCГPjPsPSC—PI CГPe PеPsCГC, PеP·PsP» P°P‡Ps
 P°P»CҺPrPsCГC, PμCГPsPS, CГC—PIPμPSCҺ CГPePеC... P·PjC—PSCҺPIP°PICГCГ PиPμCГPμPr
 P°P‡Ps PиC—CГP»CГ C, PμCГC, Cr PҺPŸPŸPк; C‡PеPj P‡CГP»P°
 PиCГPsPrPμPjPsPSCГC, CГPsPIP°PSP° CГPμP»PμPeC, PеPIPsC—CГC, CҺ C%PsPrPs C—PSC¶PеC...
 C,, PμCГPjPμPSC, C—PI, CГPeC— P‡PμCГCГC, CҺ CГC‡P°CГC, CҺ Cr
 PиPsCГPjPsPSP°P»CҺPSPsPjCГ PsP‡PjC—PSC—. PJ P·PiBГ™ CГP·PeCГ P· C‡PеPj PSPμPjP°C”
 PSPμPsP‡C...C—PrPSPсCГC, C— PI P·P°PjC—CГPSC—PNе C, PμCГP°PиC—C—
 PиP»CГPePsPePsCГC, PеPePsC—PrP°PjPе C, P° PjC—PSPμCГP°P»PsPePsCГC, PеPePsC—PrP°PjPе.

PкPμP·PSP°C‡PSPμ PиC—PrPIPеC%PμPSPSCГ CГC—PIPSCГ
 P»CГC, PμC—PSC—P·CГCГC‡PsPiPs PиPsCГPjPsPSP° (P>P”) C, P°
 C,, PsP»C—PеCГP»PsCГC, PеPjCГP»CГCГC‡PsPiPs PиPsCГPjPsPSP° (PαPŸP”) PI
 CГPеCГPsPIP°C, C‡C— PеCГPsPIC— PIC—PrP·PSP°C‡P°C”C, CҺCГCГC PSP°PIC—C, CҺ
 PиCГPе PSPеP·CҺPePеC... PrPsP·P°C.... PιPμPNе PμC,, PμPeC, C” PsC‡C—PеCГPIP°PSPеPj
 PrP»CГ PиCГPμPиP°CГP°C, C—PI C‡C—C”C— C,, P°CГPjP°PePsP»PsPiC—C‡PSPсC—
 PиCГCГPиPе; C—PjPsPIC—CГPSPs, PIC—PS CГPsP·PIPеPIP°C”C, CҺCГCГC P·P°
 PиCГPеPSC‡PеPиPsPj P·PIPсCГPsC, PSPsPiPs P·PiBГ™ CГP·PeCГ PSP° CГC—PIPSC—
 PиC—PиPsC,, C—P·P°: P·PSPеP¶PμPSPSCГ PеPsPSC‡PμPSC, CГP°C‡C—C—
 PμCГC, CГPsPiPμPSC—PI CГC, PеPjCГP»CГC” CГPμPeCГPμC‡C—CГ PиC—PиPsC,, C—P·PsPj
 PиPsPSP°PrPsC, CГPsPиC—PSC—PI (C, P°PePsP¶ C— PI P¶C—PSPsPe Cr PиPμCГC—PsPr
 PиPsCГC, PjPμPSPsPиP°CГP·Pе). PљP»C—PSC—C‡PSP° PμC,, PμPeC, PеPIPsC—CГC, CҺ C, P°
P‡PμP·PиPμPeP°.

PҺPrеГ™ CҺPIP°PSC, PSP° C, PμCГP°PиC—CГ CГP°PeCз PjPsP»PsC‡PSPсC— P·P°P»PsP·Pе

PJ P±P°PiP°С,PsC†PµPSC,СҗPsPIPsPjCр СҗР°PSPrPsPjC-Р·PsPIP°PSPsPjCр PiPsPrPIC-Р№PSPsPjCр
СҗР»C-PiPsPjCр PrPsCҗР»C-PrP¶PµPSPSC- (IES Бҗ“ РҗC-Р¶PiСҗCрPiPsPIPµ
PrPsCҗР»C-PrP¶PµPSPSC¶ PµPeP·PµPjPµCҗС,Р°PSCр), C¶PePµ PiСҗPsPIPsPrPөP»Pө P·
CрC†P°CҗС,Сҗ 4724 P¶C-PSPsPe Cр PiPµСҗC-PsPr PiPsCҗС,PjPµPSPsPiP°CрP·Pө P·
PiPµСҗPIPөPSPSPөPj СҗР°PePsPj PjPsP»PsC†PSPsC— P·P°P»PsP·Pө P· PiPsP·PөC,PөPIPSPsСҗ
PiСҗPsP±PsСҗ PSP° PµCҗС,СҗPsPiPµPSPsPIC- СҗPµC†PµPiC,PsСҗPө P°P±Ps P·
PiPµСҗPIPөPSPSPөPj СҗР°PePsPj PjPsP»PsC†PSPsC— P·P°P»PsP·Pө P·
PSPµPIPөP·PSP°C†PµPSPsСҗ PiСҗPsP±PsСҗ PSP° PµCҗС,СҗPsPiPµPSPsPIC-
СҗPµC†PµPiC,PsСҗPө, PiP°C†C-С”PSC,Pө, Cр C¶PePөC... PSPµ CҗPiPsCҗС,PµСҗC-PiP°P»PsCҗC¶
PIPөPSPөPePSPµPSPSC¶ СҗPµC†PөPrPөPICр PiC-СҗР»C¶ P°PrБҗ™ СҗPIP°PSC,PSPsC—
C,PµСҗР°PiC-С— C,Р°PjPsPeCҗPөC„PµPSPsPj PiСҗPsC,C¶PiPsPj 2Бҗ“3 СҗPsPeC-PI, P±CрP»Pө
СҗР°PSPrPsPjC-Р·PsPIP°PSC- PrP»C¶ P·P°CҗС,PsCҗCрPIP°PSPSC¶ PµPeP·PµPjPµCҗС,Р°PSCр
(25 PjPi/PrPsP±Cр) P°P±Ps C,Р°PjPsPeCҗPөC„PµPSCр (20 P°P±Ps 30 PjPi/PrPsP±Cр)
PiСҗPsC,C¶PiPsPj 3Бҗ“2 СҗPsPeC-PI PrP»C¶ PiСҗPsC...PsPrP¶PµPSPSC¶ PiPsPIPSPsPiPs
PeCрCҗCҗCр PiPsСҗPjPsPSP°P»СҗPSPsC— C,PµСҗР°PiC-С— C,СҗPөPIP°P»C-СҗС,Сҗ
5 СҗPsPeC-PI.

*PµPsPrP°P»СҗCөPµ CҗPiPsCҗС,PµСҗPµP¶PµPSPSC¶ P· PjPµPrC-Р°PSPsСҗ
52 PjC-СҗCҗC†C- Cэ PjC-Р¶PiСҗCэPiPsPIPsPjCэ PrPsCҗР»C-PrP¶PµPSPSC-
PµPeP·PµPjPµCҗС,Р°PSCэ.*

P PµP·CрP»СҗC,Р°C,Pө CҗPiPsCҗС,PµСҗPµP¶PµPSCҗ P· PjPµPrC-Р°PSPsСҗ
C,СҗPөPIP°P»PsCҗС,C- P»C-PeCрPIP°PSPSC¶ P±P»PөP·СҗPePs 30 PjC-СҗCҗC†C-PI C,Р°
PjPµPrC-Р°PSPsСҗ C,СҗPөPIP°P»PsCҗС,C- PiPsPrP°P»СҗCөPsPiPs
CҗPiPsCҗС,PµСҗPµP¶PµPSPSC¶ P±P»PөP·СҗPePs 52 PjC-СҗCҗC†C-PI
PiСҗPsPrPµPjPsPSCҗС,СҗCрPIP°P»Pө, C%Ps PiPsPrP°P»СҗCөPµ P»C-PeCрPIP°PSPSC¶
PµPeP·PµPjPµCҗС,Р°PSPsPj PiC-СҗР»C¶ 2Бҗ“3 СҗPsPeC-PI P°PrБҗ™ СҗPIP°PSC,PSPsC—
C,PµСҗР°PiC-С— C,Р°PjPsPeCҗPөC„PµPSPsPj P°CҗPsC†C-СҗPIP°P»PsCҗC¶ P·
PeP»C-PSC-C†PSPs C,Р° CҗС,Р°C,PөCҗС,PөC†PSPs P·PSP°C†CрC%PөPj
PiPsPeСҗР°C%PµPSPSC¶Pj PiPsPeP°P·PSPөPeP° PIPөP¶PiP°PSPsCҗС,C- P±PµP· PsP·PSP°Pe
P·P°C...PIPsСҗСҗPIP°PSPSC¶ (DFS) PiPsСҗC-PIPSC¶PSPs P· PiСҗPsPrPsPIP¶PµPSPSC¶Pj
P»C-PeCрPIP°PSPSC¶ C,Р°PjPsPeCҗPөC„PµPSPsPj. P PµP·CрP»СҗC,Р°C,Pө PiPsPeP°P·P°P»Pө,
C%Ps PiСҗPsC,C¶PiPsPj CҗPiPsCҗС,PµСҗPµP¶CрPIP°PSPsPiPs PiPµСҗC-PsPrCр
PrPsCҗР»C-PrP¶PµPSPSC¶ PµPeP·PµPjPµCҗС,Р°PSCр P·PSPөP¶CрPIP°PI СҗPөP·PөPe
СҗPµC†PөPrPөPICр СҗР°PeCр PjPsP»PsC†PSPsC— P·P°P»PsP·Pө PSP° 24 % PiPsСҗC-PIPSC¶PSPs
P· C,Р°PjPsPeCҗPөC„PµPSPsPj (CҗPiC-PIPIC-PrPSPsCөPµPSPSC¶ СҗPөP·PөPeC-PI Бҗ“ 0,76;
p = 0,00015). P·C-P»СҗCө PiPsP·PөC,PөPIPSPөP№ PµC„PµPeC, P·P°CҗС,PsCҗCрPIP°PSPSC¶
PµPeP·PµPjPµCҗС,Р°PSCр PiPsСҗC-PIPSC¶PSPs P· C,Р°PjPsPeCҗPөC„PµPSPsPj
PIC-PrPiPsPIC-PrPSPs PrPs PiPsPeP°P·PSPөPeP° PIPөP¶PiP°PSPsCҗС,C- P±PµP· PsP·PSP°Pe
P·P°C...PIPsСҗСҗPIP°PSPSC¶ P±CрPI PsC†PµPIPөPrPSPөPj, PSPµP·P°P»PµP¶PSPs PIC-Pr
CҗС,Р°C,CрCҗCр P»C-PjC„P°C,PөC†PSPөC... PICрP·P»C-PI P°P±Ps PiPsPiPµСҗPµPrPSCҗPsPiPs
PiСҗPsC...PsPrP¶PµPSPSC¶ PeCрCҗCҗCр C...C-PjC-PsC,PµСҗР°PiC-С—.

P—P°CҗС,PsCҗCрPIP°PSPSC¶ PµPeP·PµPjPµCҗС,Р°PSCр C,Р°PePsP¶ P·PSP°C†PSPs
P·PSPөP¶CрPIP°P»Ps СҗPөP·PөPe СҗPsP·PIPөC,PeCр PePsPSC,СҗР°P»P°C,PµСҗР°P»СҗPSPsPiPs
СҗР°PeCр PjPsP»PsC†PSPsC— P·P°P»PsP·Pө (CҗPiC-PIPIC-PrPSPsCөPµPSPSC¶ СҗPөP·PөPeC-PI
Бҗ“ 0,57; p = 0,04158).

PJ P·P°PiP°P»СҗPSC-Р№ PiPsPiCрP»CҗC†C-С— PrPsCҗР»C-PrP¶PµPSPSC¶

C, P_μPSPrP_μPSC†C-C† P_rPs P_iPsPeC₇P°C%P_μPSPSC† P·P°PiP°P»CH_μPSPsC—
 PIPëP¶PëPIP°PSPsC†C,C- C†P_iPsC†C,P_μC₇C-PiP°P»P°C†C† P_iC₇Pë P·P°C†C,P_sC†C†PIP°PSPSC-
 P_μPeP·P_μPjP_μC†C,P°PSC† (222 P»P_μC,P°P»CH_μPSPëC... PSP°C†P»C-PrPePë)
 P_iPsC₇C-PIPSC†PSPs P· C,P°PjPsPeC†PëC„P_μPSPsPj (262 P»P_μC,P°P»CH_μPSPëC...
 PSP°C†P»C-PrPePë) P·C- C†P_iC-PIPIC-PrPSPsCëP_μPSPSC†Pj C₇PëP·PëPeC-PI 0,85
 (P»P_sPiP°C₇PëC„PjC-C†PSPëP_N C₇P°PSPiPsPIPëP_N PeC₇PëC,P_μC₇C-P_N: p = 0,07362), C%P_s
 C†C,P°PSPsPIPëP»P_s P·PSPëP¶P_μPSPSC† C₇PëP·PëPeC† P»P_μC,P°P»CH_μPSPsPiPs
 PSP°C†P»C-PrPeC† PSP° 15 % PSP° PePsC₇PëC†C,CH P_μPeP·P_μPjP_μC†C,P°PSC†.
 PŸC,P°C,PëC†C,PëC†PSPs P·PSP°C†C†C%P_μ P·PSPëP¶P_μPSPSC† C₇PëP·PëPeC†
 P»P_μC,P°P»CH_μPSPsPiPs PSP°C†P»C-PrPeC† PSP° 23 % (C†P_iC-PIPIC-PrPSPsCëP_μPSPSC†
 C₇PëP·PëPeC-PI PrP»C† P·P°PiP°P»CH_μPSPsC— PIPëP¶PëPIP°PSPsC†C,C- бґ“ 0,77; C,P_μC†C,
 C...C--PePIP°PrC₇P°C, (C,P_μC†C, P°P»CH_μPrP°): p = 0,0069) C†P_iPsC†C,P_μC₇C-PiP°P»P_sC†C†
 P_iC₇Pë P·P°C†C,P_sC†C†PIP°PSPSC- P_μPeP·P_μPjP_μC†C,P°PSC† P_iPsC₇C-PIPSC†PSPs P·
 C,P°PjPsPeC†PëC„P_μPSPsPj P_iC₇Pë PePsC₇PëPiC†PIP°PSPSC- P_iPsPiP_μC₇P_μPrPSC_μPs
 P·P°PrP°PSPëC... P_iC₇P_sPiPSPsC†C,PëC†PSPëC... C„P°PeC,P_sC₇C-PI (C,P_sP±C,P_s P_iC₇P_sP±Pë
 PSP° P_μC†C,C₇P_sPiP_μPSPsPIC- C₇P_μC†P_μPiC,P_sC₇Pë, C†C,P°C,C†C†C†
 P»C-PjC„P°C,PëC†PSPëC... PIC†P·P»C-PI, P_iPsPiP_μC₇P_μPrPSC_μPsPiPs
 P_iC₇P_sC...PsPrP¶P_μPSPSC† PeC†C₇C†C† C...C-PjC-P_sC,P_μC₇P°PiC-C—,
 P·P°C†C,P_sC†C†PIP°PSPSC† PiPsC₇PjPsPSPsP·P°PjC-C†PSPsC— C,P_μC₇P°PiC-C— C,P°
 P±C-C†C„P_sC†C„P_sPSP°C,C-PI).

P_hC†PSPsPIPSC- C₇P_μP·CžP»CH_μC,P°C,Pë P_sC†C-PSPëPë P_μC„P_μPeC,PëPIPSPsC†C,C- Cž
PIC†C-C... P_iP°C†C-C”PSC,C-PI (P_iPsPiCžP»C†C†C-C† P_iP°C†C-C”PSC,C-PI,
C†C„P_sC₇PjPsPIP°PSP° PIC-PrP_iPsPIC-PrPSPs PrPs P_iC₇PëP·PSP°C†P_μPSPsPiPs
P»C-PeCžPIP°PSPSC†) C,P° Cž P_iP°C†C-C”PSC,C-PI P· C₇P°PePsPj P· P_iPsP·PëC,PëPIPSPsC₇
P_iC₇P_sP±PsC₇ PSP° P_μC†C,C₇P_sPiP_μPSPsPIC- C₇P_μC†P_μPiC,P_sC₇Pë C†P_μC₇P_μP·
52 PjC-C†C†C†C-.

P _h C-PSC†P _μ PIP° C,P _s C†P _e P° P _μ P _s PiC†P»C†C†C-C†	P·PeP·P _μ PjP _μ C†C,P°P _s P _i PIPëC%P°/N (%)	PŸP°PjPsPeC†PëC„P _μ PS P _i PIPëC%P°/N (%)	P·C-PrPSPsCëP _μ PSPSC† C ₇ PëP·PëPeC-PI (95 % P”P†)	p·P·PSP°C†P _μ PSPSC†*
P·PëP¶PëPIP°PSC-C†C,CH P±P _μ P· PsP·PSP°Pe P·P°C...PIP _s C ₇ C ₇ PIP°PSPSC† ^a				
PjC†C- P _i P°C†C-C”PSC,Pë	354/2352 (15,1 %)	453/2372 (19,1 %)	0,76 (0,67-0,88)	0,00015
P·P P _i P°C†C-C”PSC,Pë	289/2023 (14,3 %)	370/2021 (18,3 %)	0,75 (0,65-0,88)	0,00030
P _h PsPSC,C ₇ P°P»P°C,P _μ C ₇ P°P»CH _μ PSPëP _N C ₇ P°Pe PjPsP»PsC†PSPsC— P·P°P»PsP·Pë				
PjC†C- P _i P°C†C-C”PSC,Pë	20/2352 (0,9 %)	35/2372 (1,5 %)	0,57 (0,33-0,99)	0,04158
P·P P _i P°C†C-C”PSC,Pë	18/2023 (0,9 %)	33/2021 (1,6 %)	0,54 (0,30-0,95)	0,03048
P·PëP¶PëPIP°PSC-C†C,CH P±P _μ P· C ₇ P°PeC† PjPsP»PsC†PSPsC— P·P°P»PsP·Pë ^{p±}				
PjC†C- P _i P°C†C-C”PSC,Pë	289/2352 (12,3 %)	373/2372 (15,7 %)	0,76 (0,65-0,89)	0,00041
P·P P _i P°C†C-C”PSC,Pë	232/2023 (11,5 %)	305/2021 (15,1 %)	0,73 (0,62-0,87)	0,00038
P·PëP¶PëPIP°PSC-C†C,CH P±P _μ P· C†PëC†C,P _μ PjPSPëC... C ₇ P _μ C†PëPrPëPIC-PI ^{PI}				
PjC†C- P _i P°C†C-C”PSC,Pë	248/2352 (10,5 %)	297/2372 (12,5 %)	0,83 (0,70-0,98)	0,02621
P·P P _i P°C†C-C”PSC,Pë	194/2023 (9,6 %)	242/2021 (12,0 %)	0,78 (0,65-0,95)	0,01123
P—P°PiP°P»CH _μ PSP° PIPëP¶PëPIP°PSC-C†C,CH ^{PI}				
PjC†C- P _i P°C†C-C”PSC,Pë	222/2352 (9,4 %)	262/2372 (11,0 %)	0,85 (0,71-1,02)	0,07362
P·P P _i P°C†C-C”PSC,Pë	178/2023 (8,8 %)	211/2021 (10,4 %)	0,84 (0,68-1,02)	0,07569

* P>PsPiP°CḡPëC,,PjC-C†PSPëPNë CḡP°PSPiPsPiPëPNë PeCḡPëC,PμCḡC-PNë; P•P
PiP°C†C-C''PSC,Pë = PiP°C†C-C''PSC,Pë P· PiPsP·PëC,PëPiPSPsCḡ PiCḡPsP±PsCḡ PSP°
PμCḡC,CḡPsPiPμPSPsPIC- CḡPμC†PμPiC,PsCḡPë.

^a P'PëP¶PëPiP°PSC-CḡC,CH P±PμP· PsP·PSP°Pe P·P°C...PiPsCḡCḡPiP°PSPSCḡ
PiPëP·PSP°C†P°C''C,CHCḡCḡCḡ CḡPe PiPμCḡCëPëPNë PiPëPiP°PrPsPe PjC-CḡC†PμPiPsPiPs P°P±Ps
CḡPëCḡC,PμPjPSPsPiPs CḡPμC†PëPrPëPiCḡ, PePsPSC,CḡP°P»P°C,PμCḡP°P»CHPSPsPiPs
CḡP°PeCḡ PjPsP»PsC†PSPsC— P·P°P»PsP·Pë P°P±Ps P»PμC,P°P»CHPSPsPiPs PSP°CḡP»C-PrPeCḡ
P±CḡPrCH-CHPePsC— PiCḡPëC†PëPSPSPsC— P·CḡPjPsPiP»PμPSPsCḡC,C-.

^{P±} P'PëP¶PëPiP°PSC-CḡC,CH P±PμP· CḡP°PeCḡ PjPsP»PsC†PSPsC— P·P°P»PsP·Pë
PiPëP·PSP°C†P°C''C,CHCḡCḡCḡ CḡPe PiPμCḡCëPëPNë PiPëPiP°PrPsPe PjC-CḡC†PμPiPsPiPs P°P±Ps
CḡPëCḡC,PμPjPSPsPiPs CḡPμC†PëPrPëPiCḡ, PePsPSC,CḡP°P»P°C,PμCḡP°P»CHPSPsPiPs
CḡP°PeCḡ PjPsP»PsC†PSPsC— P·P°P»PsP·Pë P°P±Ps P»PμC,P°P»CHPSPsPiPs PSP°CḡP»C-PrPeCḡ
PIC-Pr CḡP°PeCḡ PjPsP»PsC†PSPsC— P·P°P»PsP·Pë.

^{PI} P'PëP¶PëPiP°PSC-CḡC,CH P±PμP· CḡPëCḡC,PμPjPSPëC... CḡPμC†PëPrPëPiC-PI
PiPëP·PSP°C†P°C''C,CHCḡCḡCḡ CḡPe PiPμCḡCëPëPNë PiPëPiP°PrPsPe CḡPëCḡC,PμPjPSPsPiPs
CḡPμC†PëPrPëPiCḡ P°P±Ps P»PμC,P°P»CHPSPsPiPs PSP°CḡP»C-PrPeCḡ PIC-Pr CḡP°PeCḡ
PjPsP»PsC†PSPsC— P·P°P»PsP·Pë.

^{PI} P—P°PiP°P»CHPSP° PiPëP¶PëPiP°PSC-CḡC,CH PiPëP·PSP°C†P°C''C,CHCḡCḡCḡ CḡPe
PSP°CḡC,P°PSPSCḡ P»PμC,P°P»CHPSPsPiPs PSP°CḡP»C-PrPeCḡ P· P±CḡPrCH-CHPePsC—
PiCḡPëC†PëPSPë. P—P° CḡPμP·CḡP»CHC,P°C,P°PjPë PrPsPrP°C,PePsPiPsPiPs P°PSP°P»C-P·Cḡ
PiC-PrPiCḡCḡPiPë PiP°C†C-C''PSC,C-PI P· PiPsP·PëC,PëPiPSPsCḡ P°P±Ps
PSPμPiPëP·PSP°C†PμPSPsCḡ PiCḡPsP±PsCḡ PSP° PμCḡC,CḡPsPiPμPSPsPIC-
CḡPμC†PμPiC,PsCḡPë PSPμCḡPePsCḡPëPiPsPiP°PSPμ CḡPiC-PIPIC-PrPSPsCëPμPSPSCḡ
CḡPëP·PëPeC-PI PrP»Cḡ P·P°PiP°P»CHPSPsC— PiPëP¶PëPiP°PSPsCḡC,C- CḡC,P°PSPsPiPëP»Ps
0,83 (P»PsPiP°CḡPëC,,PjC-C†PSPëPNë CḡP°PSPiPsPiPëPNë PeCḡPëC,PμCḡC-PNë: p = 0,04250),
C%oPs C'' PeP»C-PSC-C†PSPs C- CḡC,P°C,PëCḡC,PëC†PSPs P·PSP°C†CḡC%oPëPj
P·PjPμPSCëPμPSPSCḡPj CḡPëP·PëPeCḡ P»PμC,P°P»CHPSPsPiPs PSP°CḡP»C-PrPeCḡ PSP° 17 %.
P PμP·CḡP»CHC,P°C,Pë PrPsPrP°C,PePsPiPsPiPs PrPsCḡP»C-PrP¶PμPSPSCḡ P·
PiPëPiC†PμPSPSCḡ CḡC,P°PSCḡ PeC-CḡC,PePsPiPsC— C,PeP°PSPëPSPë Cḡ CḡP°PjPeP°C...
PḡC-P¶PiCḡCḡPiPsPiPs PrPsCḡP»C-PrP¶PμPSPSCḡ PμPeP·PμPjPμCḡC,P°PSCḡ
PiPsPeP°P·P°P»Pë, C%oPs Cḡ P¶C-PSPsPe, CḡPeC- P·P°CḡC,PsCḡPsPICḡPiP°P»Pë
PμPeP·PμPjPμCḡC,P°PS PiC-CḡP»Cḡ 2 Bḡḡ“3 CḡPsPeC-PI P»C-PeCḡPiP°PSPSCḡ
C,P°PjPsPeCḡPëC,,PμPSPsPj, CḡPiPsCḡC,PμCḡC-PiP°P»PsCḡCḡ PiPsPjC-CḡPSPμ
P·PSPëP¶PμPSPSCḡ PjC-PSPμCḡP°P»CHPSPsC— C%oC-P»CHPSPsCḡC,C- PeC-CḡC,PsPe. Pj
P·P°PiP°P»CHPSPsPjCḡ PrPsCḡP»C-PrP¶PμPSPSC- C†P°CḡC,PsC,P° PiPμCḡPμP»PsPjC-PI, C%oPs
CḡC,P°P»PëCḡCḡ PiC-CḡP»Cḡ PiPsC†P°C,PeCḡ P»C-PeCḡPiP°PSPSCḡ, CḡPeP°
PsC†C-PSCḡPiP°P»P°CḡCḡ PiCḡPsC,CḡPiPsPj PiPμCḡC-PsPrCḡ P»C-PeCḡPiP°PSPSCḡ
C,CḡPëPiP°P»C-CḡC,Cḡ 30 PjC-CḡCḡC†C-PI, P±CḡP»P° PiPëC%oPsCḡ Cḡ PiP°C†C-C''PSC,C-PI,
CḡPeC- P·P°CḡC,PsCḡPsPICḡPiP°P»Pë PμPeP·PμPjPμCḡC,P°PS PiPsCḡC-PIPSCḡPSPs P·
C,P°PjPsPeCḡPëC,,PμPSPsPj (4,5 % C,P° 3,3 % PIC-PrPiPsPIC-PrPSPs, p = 0,038).

P PμP·CḡP»CHC,P°C,Pë, PsC,CḡPëPjP°PSC- Cḡ PrPsPrP°C,PePsPiPsPjCḡ
PrPsCḡP»C-PrP¶PμPSPSC- P· PiPëPiC†PμPSPSCḡ CḡC,P°PSCḡ PμPSPPrPsPjPμC,CḡC-Cḡ Cḡ
CḡP°PjPeP°C... PḡC-P¶PiCḡCḡPiPsPiPs PrPsCḡP»C-PrP¶PμPSPSCḡ
PμPeP·PμPjPμCḡC,P°PSCḡ, CḡPIC-PrC†P°C,CH, C%oPs PiC-CḡP»Cḡ 2 CḡPsPeC-PI
P»C-PeCḡPiP°PSPSCḡ CḡPiPsCḡC,PμCḡC-PiP°P»PsCḡCḡ P·PjPμPSCëPμPSPSCḡ
C,PsPIC%oPëPSPë PμPSPPrPsPjPμC,CḡC-Cḡ P· PjPμPrC-P°PSPsCḡ 33 % Cḡ PiP°C†C-C''PSC,C-PI,
CḡPeC- P·P°CḡC,PsCḡPsPICḡPiP°P»Pë PμPeP·PμPjPμCḡC,P°PS, PiPsCḡC-PIPSCḡPSPs P·

PIC-PrCfCfC,PSC-CfC,Ch PİPsPjC-C,PSPsC— P·PjC-PSPë Cr PİP°C†C-C"PSC,C-PI, CİPeC-
P·P°CfC,PscfPscİPİP°P»Pë C,P°PjPsPeCfPëC,,PµPS. PµPsC,PscİC%PµPSPSCİ
PµPSPPrPsPjPµC,CfC-Cİ, P·P°CfPµC"CfC,CfPscİPİP°PSPµ PSP° PİPsC†P°C,PeCr
P·P°CfC,PscfCfPİP°PSPSCİ PµPeP·PµPjPµCfC,P°PSCr, PİPsPİPµCfPSCrP»PscfCİ PrPs
PSPsCfPjPë (< 5 PjPj) Cr 54 % PİP°C†C-C"PSC,C-PI, CİPeC- P·P°CfC,PscfPscİPİP°P»Pë
PµPeP·PµPjPµCfC,P°PS.

*PµPsPrP°P»CHC€Pµ CİPİPsCfC,PµCfPµP¶PµPSPSCİ P· PjPµPrC-P°PSPsCh
87 PjC-CfCİC†C-PI Cž PjC-P¶PİCfCžPİPsPİPsPjCž PrPsCfP»C-PrP¶PµPSPSC-
PµPeP·PµPjPµCfC,P°PSCž.*

P PµP·CrP»CHC,P°C,Pë CİPİPsCfC,PµCfPµP¶PµPSCİ P· PjPµPrC-P°PSPsCh
C,CfPëPİP°P»PscfC,C- P»C-PeCfPİP°PSPSCİ P±P»PëP·CHPePs 30 PjC-CfCİC†C-PI C,P°
PjPµPrC-P°PSPsCh C,CfPëPİP°P»PscfC,C- PİPsPrP°P»CHC€PµPİPs
CİPİPsCfC,PµCfPµP¶PµPSPSCİ P±P»PëP·CHPePs 87 PjC-CfCİC†C-PI
PİCfPscPrPµPjPsPSCfC,CfCrPİP°P»Pë, C%Ps PİPsPrP°P»CHC€Pµ P»C-PeCfPİP°PSPSCİ
PµPeP·PµPjPµCfC,P°PSPsPj PİC-CİP»Cİ 2Bf"3 CfPscPeC-PI P°PrBf™ ChPİP°PSC,PSPsC—
C,PµCfP°PİC-C— C,P°PjPsPeCfPëC,,PµPSPsPj P°CfPsc†C-ChPİP°P»PscfCİ C-P·
PeP»C-PSC-C†PSPs C,P° CİC,P°C,PëCfC,PëC†PSPs P·PSP°C†CfC%PëPj
PİPsPeCfP°C%PµPSPSCİPj PİPsPeP°P·PSPëPeP° PİPëP¶PëPİP°PSPsCfC,C- P±PµP· PsP·PSP°Pe
P·P°C...PİPsCfChPİP°PSPSCİ PİPsCfC-PIPSCİPSPs P· PİCfPscPrPsPİP¶PµPSPSCİPj
P»C-PeCfPİP°PSPSCİ C,P°PjPsPeCfPëC,,PµPSPsPj. P PµP·CrP»CHC,P°C,Pë PİPsPeP°P·P°P»Pë,
C%Ps PİCfPsc,CİPİPsPj CİPİPsCfC,PµCfPµP¶CfPİP°PSPsPİPs PİPµCfC-PsPrCr
PrPsCfP»C-PrP¶PµPSPSCİ PµPeP·PµPjPµCfC,P°PSCr P·PSP°C†PSPs P·PSPëP¶CfPİP°PI
CfPëP·PëPe CfPµC†PëPrPëPİCf CfP°PeCr PjPsP»Psc†PSPsC— P·P°P»PsP·Pë PSP° 16 %
PİPsCfC-PIPSCİPSPs P· C,P°PjPsPeCfPëC,,PµPSPsPj (CİPİC-PIPİC-PrPSPsC€PµPSPSCİ
CfPëP·PëPeC-PI 0,84; p = 0,002).

P—P°PİP°P»PsPj P±C-P»CHC€P° PePsCfPëCfC,Ch PIC-Pr P·P°CfC,PscfCfPİP°PSPSCİ
PµPeP·PµPjPµCfC,P°PSCr PİPsCfC-PIPSCİPSPs P· C,P°PjPsPeCfPëC,,PµPSPsPj
PIC-PrPİPsPIC-PrPSPs PrPs PİPsPeP°P·PSPëPeP° PİPëP¶PëPİP°PSPsCfC,C- P±PµP· PsP·PSP°Pe
P·P°C...PİPsCfChPİP°PSPSCİ P±CfP»P° PsC†PµPİPëPrPSPsCh PSPµP·P°P»PµP¶PSPs PIC-Pr
CfC,P°C,CfCfCf P»C-PjC,,P°C,PëC†PSPëC... PİCfP·P»C-PI P°P±Ps PİPsPİPµCfPµPrPSCİPsPİPs
PİCfPsc...PsPrP¶PµPSPSCİ PeCfCfCfCf C...C-PjC-PsC,PµCfP°PİC-C— P°P±Ps
PİPsCfPjPsPSP°P»CHPSPsC— C,PµCfP°PİC-C—. PŸC,P°C,PëCfC,PëC†PSP°
P·PSP°C†CfC%C-CfC,Ch PSPµ P±CfP»P° PİPëCİPİP»PµPSP° Pİ PrPµPeC-P»CHPePsC...
PİC-PrPİCfCfPİP°C... C-P· PjP°P»PµPSCİPePsCh PİPëP±C-CfPePsCh. P°PSPë
PİCfPscPrPµPjPsPSCfC,CfCrPİP°P»Pë C,PµPSPPrPµPSC†C-Ch PSP° PePsCfPëCfC,Ch
PµPeP·PµPjPµCfC,P°PSCr Cr PİP°C†C-C"PSC,C-PI P· P±C-P»CHC€ PSC-P¶ 9
PİPsP·PëC,PëPİPSPëPjPë PİCfP·P»P°PjPë P°P±Ps PİPsPİPµCfPµPrPSC-Pj
PİCfPsc...PsPrP¶PµPSPSCİPj PeCfCfCfCf C...C-PjC-PsC,PµCfP°PİC-C— P·P° CİC...PµPjPsCh
CMF (C†PëPeP»PsC,,PscfC,,P°PS PjPµC,Psc,CfPµPeCfP°C, 5-C,,C,PscfCfCfP°C†PëP»). Pj
PİP°C†C-C"PSC,C-PI C-P· PSPµPIC-PrPsPjPëPj CİC,P°C,CfCfPsPj PİCfP·P»C-PI, C-PSC€PëPj
PİPsPİPµCfPµPrPSC-Pj PeCfCfCfPj C...C-PjC-PsC,PµCfP°PİC-C—, P° C,P°PePsP¶
PSPµPIC-PrPsPjPëPj/PIC-PrCfCfC,PSC-Pj CİC,P°C,CfCfPsPj PİPsPİPµCfPµPrPSCİPsC—
PİPsCfPjPsPSP°P»CHPSPsC— C,PµCfP°PİC-C— CİPİPsCfC,PµCfC-PİP°P»P°CfCİ
CfC,P°C,PëCfC,PëC†PSPs PSPµP·PSP°C†CfC%P° C,PµPSPPrPµPSC†C-Cİ PSP° PePsCfPëCfC,Ch
C,P°PjPsPeCfPëC,,PµPSCr.

PµCfC-Pj C,PsiPs, PµPeP·PµPjPµCfC,P°PS C,P°PePsP¶ P·PSP°C†PSPs PİPsPrPsPİP¶CfPİP°PI
PİPëP¶PëPİP°PSC-CfC,Ch P±PµP· CfP°PeCr PjPsP»Psc†PSPsC— P·P°P»PsP·Pë

(CÍPíC-PIPIC-PrPSPsC€PµPSPSCÍ CĤPëP·PëPeC-PI БĤ“ 0,82; p = 0,00263) C,P°
PIPëP¶PëPIP°PSC-ClC,CH P±PµP· CÍPëClC,PµPjPSPëC... CĤPµC†PëPrPëPIC-PI
(CÍPíC-PIPIC-PrPSPsC€PµPSPSCÍ CĤPëP·PëPeC-PI БĤ“ 0,85; p = 0,02425).

P·PeP·PµPjPµClC,P°PS C,P°PePsP¶ P·PSPëP¶CÍPIP°PI CĤPëP·PëPe
PePsPSC,CĤP°P»P°C,PµCĤP°P»CHbPSPsPiPs CĤP°PeCr PjPsP»PsC±PSPsC— P·P°P»PsP·Pë,
C...PsC±P° PµC,,PµPeC, PIP¶Pµ PSPµ P±CÍPI ClC,P°C,PëClC,PëC±PSPs P·PSP°C±CÍC%PëPj
PiC-Pr C±P°ClC C†CHbPsPiPs PiPµCĤC-PsPrCr CÍPiPsClC,PµCĤPµP¶PµPSPSCÍ Cr
PrPsClP»C-PrP¶PµPSPSC- (CÍPíC-PIPIC-PrPSPsC€PµPSPSCÍ CĤPëP·PëPeC-PI БĤ“ 0,74;
p = 0,12983). PJ P·P°PiP°P»CHbPSC-PNë PiPsPiCrP»CÍC†C-C— PrPsClP»C-PrP¶PµPSPSCÍ
C,PµPSPPrPµPSC†C-CÍ PrPs PiPsPeCĤP°C%PµPSPSCÍ P·P°PiP°P»CHbPSPsC—
PIPëP¶PëPIP°PSPsClC,C- CÍPiPsClC,PµCĤC-PiP°P»P°ClCÍ PiCĤPë P·P°ClC,PsClCÍPIP°PSPSC-
PµPeP·PµPjPµClC,P°PSCr (373 P»PµC,P°P»CHbPSC- PSP°ClP»C-PrPePë) PiPsCĤC-PIPSClPSPs P·
C,P°PjPsPeClPëC,,PµPSPsPj (420 P»PµC,P°P»CHbPSPëC... PSP°ClP»C-PrPeC-PI) P·C-
CÍPíC-PIPIC-PrPSPsC€PµPSPSCÍPj CĤPëP·PëPeC-PI БĤ“ 0,89 (P»PsPiP°CĤPëC,,PjC-C±PSPëPNë
CĤP°PSPiPsPIPëPNë PeCĤPëC,PµCĤC-PNë: p = 0,08972), C%Ps ClC,P°PSPsPIPëP»Ps
P·PSPëP¶PµPSPSCÍ CĤPëP·PëPeCr P»PµC,P°P»CHbPSPsPiPs PSP°ClP»C-PrPeCr PSP° 11 % PSP°
PePsCĤPëClC,CH PµPeP·PµPjPµClC,P°PSCr. PµCĤPë PePsCĤPëPiCrPIP°PSPSC-
PiPsPiPµCĤPµPrPSCbPs P·P°PrP°PSPëC... PiCĤPsPiPSPsClC,PëC±PSPëC... C,,P°PeC,PSCĤC-PI
(C,PSP±C,PSP PiCĤPsP±Pë PSP° PµClC,CĤPsPiPµPSPsPIC- CĤPµC†PµPiC,PSCĤPë, ClC,P°C,CÍClCÍ
P»C-PjC,,P°C,PëC±PSPëC... PICrP·P»C-PI, PiPsPiPµCĤPµPrPSCbPsPiPs
PiCĤPsC...PsPrP¶PµPSPSCÍ PeCrCĤClCÍ C...C-PjC-PsC,PµCĤP°PiC-C—,
P·P°ClC,PsClCÍPIP°PSPSCÍ PiPsCĤPjPsPSPsP·P°PjC-ClPSPsC— C,PµCĤP°PiC-C— C,P°
P±C-ClC,,PsClC,,PsPSP°C,C-PI) ClC,P°C,PëClC,PëC±PSPs P·PSP°C±CÍC%Pµ P·PSPëP¶PµPSPSCÍ
CĤPëP·PëPeCr P»PµC,P°P»CHbPSPsPiPs PSP°ClP»C-PrPeCr PSP° 18 %
(CÍPíC-PIPIC-PrPSPsC€PµPSPSCÍ CĤPëP·PëPeC-PI PrP»CÍ P·P°PiP°P»CHbPSPsC—
PIPëP¶PëPIP°PSPsClC,C- БĤ“ 0,82; C,PµClC, C...C--PePIP°PrCĤP°C, (C,PµClC, P°P»CHbPrP°):
p = 0,0082) CÍPiPsClC,PµCĤC-PiP°P»PsClCÍ PiCĤPë P·P°ClC,PsClCÍPIP°PSPSC-
PµPeP·PµPjPµClC,P°PSCr PiPsCĤC-PIPSClPSPs P· C,P°PjPsPeClPëC,,PµPSPsPj Cr
P·P°PiP°P»CHbPSC-PNë PiPsPiCrP»CÍC†C-C— PrPsClP»C-PrP¶PµPSPSCÍ.
P—P° CĤPµP·CrP»CHbC,P°C,P°PjPë PrPsPrP°C,PePsPiPsPiPs P°PSP°P»C-P·Cr PiC-PrPiCĤCrPiPë
PiP°C†C-C”PSC,C-PI C-P· PiPsP·PëC,PëPIPSsCĤ P°P±Ps PSPµPIPëP·PSP°C±PµPSPsCĤ
PiCĤPsP±PsCĤ PSP° PµClC,CĤPsPiPµPSPsPIC- CĤPµC†PµPiC,PSCĤPë
PSPµClPePsCĤPëPiPsPIP°PSPµ CÍPíC-PIPIC-PrPSPsC€PµPSPSCÍ CĤPëP·PëPeC-PI PrP»CÍ
P·P°PiP°P»CHbPSPsC— PIPëP¶PëPIP°PSPsClC,C- ClC,P°PSPsPIPëP»Ps 0,86
(P»PsPiP°CĤPëC,,PjC-C±PSPëPNë CĤP°PSPiPsPIPëPNë PeCĤPëC,PµCĤC-PNë: p = 0,04262), C%Ps C”
PeP»C-PSC-C±PSPs C- ClC,P°C,PëClC,PëC±PSPs P·PSP°C±CÍC%PëPj P·PjPµPSC€PµPSPSCÍPj
CĤPëP·PëPeCr P»PµC,P°P»CHbPSPsPiPs PSP°ClP»C-PrPeCr PSP° 14 %. P PµP·CrP»CHbC,P°C,Pë,
PsC,CĤPëPjP°PSC- Cr PrPsPrP°C,PePsPiPsPjCr PrPsClP»C-PrP¶PµPSPSC- P· PIPëPIC±PµPSPSCÍ
ClC,P°PSCr PeC-ClC,PePsPiPsC— C,PeP°PSPëPSPë, CÍPIC-PrC±P°C,CH, C%Ps
P·P°ClC,PsClCÍPIP°PSPSCÍ PµPeP·PµPjPµClC,P°PSCr PiCĤPsC,CÍPiPsPj 2БĤ“3 CĤPsPeC-PI
PiC-ClP»CÍ P·P°ClC,PsClCÍPIP°PSPSCÍ C,P°PjPsPeClPëC,,PµPSCr PiCĤPsC,CÍPiPsPj
3БĤ“2 CĤPsPeC-PI PiCĤPëP·PIPµP»Ps PrPs P·P±C-P»CHbC€PµPSPSCÍ PIC,CĤP°C,Pë
PeC-ClC,PePsPiPsC— PjP°ClPë PiC-Pr C±P°ClC C†CHbPsPiPs P»C-PeCrPIP°PSPSCÍ
(CÍPµCĤPµPrPSC-PNë % P·PjC-PSPë PjC-PSPµCĤP°P»CHbPSPsC— C%C-P»CHbPSPsClC,C-
PeC-ClC,PSPe (PĤP©PĤ) PiPsCĤC-PIPSClPSPs P· PiPsC±P°C,PePsPIPëPj CĤC-PIPSµPj
C±PµCĤPµP· 36 PjC-ClCÍC†C-PI:

-3,37 (C...CĤPµP±PµC,, -2,96 (ClC,PµPiPSPs PiPsPIPS-ClC,CH) PiCĤPë
P·P°ClC,PsClCÍPIP°PSPSC- PµPeP·PµPjPµClC,P°PSCr C,P° -1,29 (C...CĤPµP±PµC,,)

-2,02 (CfC, PμPiPSPs PiPsPIPSC-CfC, Ch) PiChPë P·P°CfC, PsCfCfPIP°PSPSC-
C, P°PjPsPeCfPëC, PμPSCf). PμChPsC, Pμ PiC-Pr PeC-PSPμCfCh PiPμChC-PsPrCf PiC-CfP»Cf
P»C-PeCfPIP°PSPSCf C, ChPëPIP°P»C-CfC, Ch 24 PjC-CfCfCfC- P·PjC-PSP° P·PSP°CfPμPSPSCf
PμP©Pμ PiPsCfC-PIPSCfPSPs P· PiPsCfP°C, PePsPIPëPj ChC-PIPSPμPj Pi PsP±PsC...
PiChCfPiP°C... P»C-PeCfPIP°PSPSCf P±CfP»P° PjC-PSC-PjP°P»ChPSPsCh, PeC-PSCfPμPIPμ
P·PjPμPSCfPμPSPSCf P·PSP°CfPμPSPSCf PμP©Pμ Cf PiChCfPiC- C, P°PjPsPeCfPëC, PμPSCf
P±CfP»Ps C, ChPsC...Pë P±C-P»ChCfPëPj PrP»Cf PICfC-C... PrC-P»CfPSPsPe
(CfPμChPμPrPSC-PNë % P·PjC-PSPë PμP©Pμ CfPμChPμP· 24 PjC-CfCfCfC-
PiPsCfC-PIPSCfPSPs P·C- P·PSP°CfPμPSPSCfPj PSP° PiPsCfP°C, PePsPIPjCf ChC-PIPSC-:
-2,17 (C...ChPμP±PμC,), -3,06 (CfC, PμPiPSPs PiPsPIPSC-CfC, Ch) PiChPë
P·P°CfC, PsCfCfPIP°PSPSC- PμPeP·PμPjPμCfC, P°PSCf C, P° -3,44 (C...ChPμP±PμC,), -4,15
(CfC, PμPiPSPs PiPsPIPSC-CfC, Ch) PiChPë P·P°CfC, PsCfCfPIP°PSPSC-
C, P°PjPsPeCfPëC, PμPSCf).

PμC-P»ChPeC-CfC, Ch CfCfC-C... PiPμChPμP»PsPjC-PI, P·P°ChPμC”CfC, ChPsPIP°PSPëC...
PiChPsC, CμPiPsPj PiPμChC-PsPrC-PI P»C-PeCfPIP°PSPSCf C, P° PiPsPrP°P»ChCfPsPiPs
CfPiPsCfC, PμChPμPμPμPSPSCf, P±CfP»P° P·PSP°CfPSPs P±C-P»ChCfPsCh Cf PiChCfPiC-
P»C-PeCfPIP°PSPSCf PμPeP·PμPjPμCfC, P°PSPsPj PiPsChC-PIPSCfPSPs P· PiChCfPiPsCh
P»C-PeCfPIP°PSPSCf C, P°PjPsPeCfPëC, PμPSPsPj (169 (7,3 %) PiPsChC-PIPSCfPSPs P· 122
(5,2 %); p = 0,004), P°P»Pμ PSPμ P±CfP»Ps PIPëCfPIP»PμPSPs PIC-PrPjC-PSPSPsCfC, C- Cf
PeC-P»ChPePsCfC, C- PiPμChPμP»PsPjC-PI, P·P°ChPμC”CfC, ChPsPIP°PSPëC... CμPe
PSP°CfP»C-PrPsPe PsCfC, PμPsPiPsChPsP·Cf. P»C-PeCfPIP°PSPSCf PiPsCfPëChPμPSPsPiPs
ChP°PeCf PjPsP»PsCfPSPsC— P·P°P»PsP·Pë.

Pj ChP°PSPrPsPjC-P·PsPIP°PSPsPjCf PiPsChC-PIPSCfP»ChPSPsPjCf
PePsPSC, ChPsP»ChPsPIP°PSPsPjCf PeP»C-PSC-CfPSPsPjCf PrPsCfP»C-PrPμPμPSPSC-
P·P°CfC, PsCfCfPIP°PSPSCf PμPeP·PμPjPμCfC, P°PSCf PI PrPsP±PsPIC-PNë PrPsP·C- 25 PjPi
PiChPsPrPμPjPsPSCfC, ChPsPIP°PSPs CfC, P°C, PëCfC, PëCfPSPs P·PSP°CfCfC°Pμ
P·P±C-P»ChCfPμPSPSCf PiPμChC-PsPrCf PIPëPμPëPIP°PSPsCfC, C-, CfP°CfCf PrPs
PiChPsPiChPμCfCfPIP°PSPSCf P·P°C...PiPsChChPIP°PSPSCf, CfP°CfCf PrPs
PePsPSCfC, P°C, P°CfC— PIC-PrCfCfC, PSPsCfC, C- PμC, PμPeC, Cf P»C-PeCfPIP°PSPSCf
PiPsChC-PIPSCfPSPs P·C- CfC, P°PSPrP°ChC, PSPëPj PiPsChPjPsPSP°P»ChPSPëPj
P»C-PeCfPIP°PSPSCfPj C-P· P·P°CfC, PsCfCfPIP°PSPSCfPj PjPμPiPμCfC, ChPsP»Cf
P°CfPμC, P°C, Cf PI PμC-PSPsPe P· PiPsCfPëChPμPSPëPj ChP°PePsPj PjPsP»PsCfPSPsC—
P·P°P»PsP·Pë Cf PiPμChC-PsPr PiPsCfC, PjPμPSPsPiP°CfP·Pë, CμPePëPNë
PiChPsPiChPμCfCfPIP°PI PiC-CfP»Cf P°P±Ps PiC-Pr CfP°Cf P»C-PeCfPIP°PSPSCf
C, P°PjPsPeCfPëC, PμPSPsPj Cf CμPePsCfC, C- P°PrBh™ ChPIP°PSC, PSPsC— C, PμChP°PiC-C—
P°P±Ps PI CμPePsCfC, C- C, PμChP°PiC-C— PiPμChCfPsC— P»C-PSC-C— PiPsCfPëChPμPSPsPiPs
ChP°PeCf.

PαP°ChPjP°PePsPeC-PSPμC, PëPeP°.

*PμP±CfPsChP±CfC-Cf. PμC-CfP»Cf PiPμChPsChP°P»ChPSPsPiPs PiChPëPNëPsPjCf
PμPeP·PμPjPμCfC, P°PS CfPIPëPrPePs P°P±CfPsChP±CfC”C, ChCfCfCf. P”PsP·P°, C°Ps
PiPsPiP»PëPSP°C”C, ChCfCfCf P·C- CfP»CfPSPePsPiPs-PePëCfPePsPiPs C, ChP°PeC, Cf,
PIPëCfPsPeP°. PμP±CfPsP»ChC, PSPsC— P±C-PsP»PsPiC-CfPSPsC— PrPsCfC, CfPiPSPsCfC, C-
PSPμ PICfC, P°PSPsPIP»PμPSPs, C...PsCfP° ChPsP·PiPsPICfChPrPμPμPSPSCf PiPsPIPëPSPSPs
P±CfC, Pë PsP±PjPμPμPμPSPs PμC, PμPeC, PsPj PiPμChCfPsPiPs PiChPsC...PsPrPμPμPSPSCf.
PμChPë PsPrPSPsChP°P·PsPiPsPjCf PiChPëPNëPsPjC- PrPsP·Pë 25 PjPi CfPμChPμPrPSC-PNë
ChC-PIPμPSCf Cf PiP»P°P·PjC- PeChPsPIC- PrPsCfCfPiP°C” PjP°PeCfPëPjCfPjCf CfPμChPμP·
2 PiPsPrPëPSPë C- CfC, P°PSPsPIPëC, Ch 18 PSpj/PjP». PhPrPSPsCfP°CfPSPμ
P·P°CfC, PsCfCfPIP°PSPSCf PμPeP·PμPjPμCfC, P°PSCf P· C—PμPμCh PiC-PrPIPëC°CfC”*

PN₆PsPiPs P±C-PsPrPsCfC,CfPiPSC-CfC,CH PSP° 40 %.

P PsP·PiPsPrC-P». PhP±BTM C" Pj C₇PsP·PiPsPrC-P»Cf PμPeP·PμPjPμCfC,P°PSCf P±PμP·PePsC₇PμPeC†C-C— PSP° PiPμC₇PsC₇P°P»CH₆PSCf P±C-PsPrPsCfC,CfPiPSC-CfC,CH CfC,P°PSPsPiPëC,CH PiC₇PëP±P»PëP·PSPs 20000 P». PαP°C₇PjP°PePsPeC-PSPμC,PëPeP° PμPeP·PμPjPμCfC,P°PSCf C" P»C-PSC-PN₆PSPsC₇, PeC-PSC†PμPiPëPN₆ PiPμC₇C-PsPr PSP°PiC-PIPIPëPiPμPrPμPSPSC₇ PμPeP·PμPjPμCfC,P°PSCf CfC,P°PSPsPiPëC,CH 24 PiPsPrPëPSPë. P—PiBTM C₇P·CfPiP°PSPSC₇ P· P±C-P»PeP°PjPë PiP»P°P·PjPë PeC₇PsPIC-CfC,P°PSPsPiPëC,CH 90 % C- PSPμ P·P°P»PμP[¶]PëC,CH PIC-Pr PePsPSC†PμPSC,C₇P°C†C-C—. P·PeP·PμPjPμCfC,P°PS C- PN₆PsPiPs PjPμC,P°P±PsP»C-C,Pë PSPμ P·PiBTM C₇P·CfC₇C,CHCfC₇ P· PμC₇PëC,C₇PsC†PëC,P°PjPë. P·PeP·PμPjPμCfC,P°PS PSPμ P°PeCfPjCfP»C₇C,C₇CfC₇ PSPμPiPμC₇PμPrP±P°C†CfPiP°P»CH₆PSPëPj CëP»C₇C...PsPj PiC-CfP»C₇ P·P°CfC,PsCfCfPiP°PSPSC₇ PiPsPIC,PsC₇PSPëC... PrPsP·.

P₇PμC,P°P±PsP»C-P·Pj C,P° PμPeCfPeC₇PμC†C-C₇. P·PeP·PμPjPμCfC,P°PS PjPμC,P°P±PsP»C-P·CfC" C,CHCfC₇ CëP»C₇C...PsPj PsPePëCfPSPμPSPSC₇ PjPμC,PëP»PμPSPsPiPsC— PiC₇CfPiPë (6) P·P° PrPsPiPsPjPsPiPsC₇ C-P·PsC,,PμC₇PjPμPSC,P° CYP3P₄ C,P°/P°P±Ps CëP»C₇C...PsPj PIC-PrPSPsPiP»PμPSPSC₇ 17-PePμC,PsPiC₇CfPiPë P·P° PrPsPiPsPjPsPiPsC₇ P°P»CH₆PrPsPePμC,PsC₇PμPrCfPeC,P°P·Pë P· PiPsPrP°P»CH₆CëPsC₇ PePsPSBTM C₇PiP°C†C-C" C₇. P₇P»C-C₇PμPSCf PμPeP·PμPjPμCfC,P°PSCf CfC,P°PSPsPiPëC,CH PiC₇PëP±P»PëP·PSPs 500 P»/PiPsPr P±PμP· PePsC₇PμPeC†C-C— PSP° PiPμC₇PsC₇P°P»CH₆PSCf P±C-PsPrPsCfC,CfPiPSC-CfC,CH. P©PsPrPs C-PSPiC-P±CfPiP°PSPSC₇ P°C₇PsPjP°C,P°P·Pë C†C- PjPμC,P°P±PsP»C-C,Pë P°P±Ps PSPμP°PeC,PëPiPSC-, P°P±Ps PjPμPSCë P°PeC,PëPiPSC-, PSC-P[¶] PiPsC†P°C,PePsPiP° CfPiPsP»CfPeP°. P₇C-P»CH₆PeC-CfC,CH PμPeP·PμPjPμCfC,P°PSCf, C%Ps PiPëPrC-P»C₇C" C,CHCfC₇ C-P· CfPμC†PμC₇ Cf PSPμP·PjC-PSPμPSPsPjCf PiPëPiP»C₇PμPrC-, CfC,P°PSPsPiPëC,CH 1 % PrPsP·Pë. PhPrPSP°PePsPiP° PeC-P»CH₆PeC-CfC,CH PμPeP·PμPjPμCfC,P°PSCf (40 %), PjC-C†PμPSPsPiPs C-P·PsC,PsPiPsPj ¹⁴C, PiPëPrC-P»C₇P»P°CfC₇ C-P· CfPμC†PμC₇ C,P° PeP°P»PsPj PiC₇PsC,C₇PiPsPj C,PëP[¶]PSC₇.

P₇PiPμC†C-P°P»CH₆PSC- PiC₇CzPiPë.

P'C-Pë. P₇CfC,C,C"PiPsC— PePsC₇PμP»C₇C†C-C— PjC-P[¶] CfPëCfC,PμPjPSPsC₇ PμPeCfPiPsP·PëC†C-C" C₇ PμPeP·PμPjPμCfC,P°PSCf C- PIC-PePsPj PiP°C†C-C"PSC,PsPe PSPμ CfPiPsCfC,PμC₇C-PiP°P»PsCfC₇.

PμP°C†C-C"PSC,Pë P· PiPsC₇CzCëPμPSPSC₇Pj C,,CzPSPeC†C-C— PSPëC₇PsPe.

Pj PiP°C†C-C"PSC,C-PI P· CfC₇P°P[¶]PμPSPSC₇Pj PSPëC₇PsPe C,C₇P[¶]PePsPiPs CfC,CfPiPμPSC₇ (CL_{Cf} < 30 PjP»/C...PI) C₇C-PIPμPSC₇ CfPëCfC,PμPjPSPsC— PμPeCfPiPsP·PëC†C-C— PμPeP·PμPjPμCfC,P°PSCf P±CfPI PiPrPIC-C†C- PiPëC%PëPN₆ PiPsC₇C-PIPSC₇PSPs P·C- P·PrPsC₇PsPiPëPjPë PrPsP±C₇PsPiPsP»CH₆C†C₇PjPë. P'PμC₇CfC†Pë PrPs CfPiP°PiPë PiC₇PsC,,C-P»CH P±PμP·PiPμC†PSPsCfC,C- PμPeP·PμPjPμCfC,P°PSCf, PePsC₇PëPiCfPiP°PSPSC₇ PrPsP·Pë PSPμ PiPsC,C₇C-P±PSPμ. *PμP°C†C-C"PSC,Pë P· PiPsC₇CzCëPμPSPSC₇Pj C,,CzPSPeC†C-C— PiPμC†C-PSPëPë.*

Pj PiP°C†C-C"PSC,C-PI P· CfC₇P°P[¶]PμPSPSC₇Pj PiPμC†C-PSPëPë CfPμC₇PμPrPSC₇PsPiPs P°P±Ps C,C₇P[¶]PePsPiPs CfC,CfPiPμPSC₇ C₇C-PIPμPSC₇ PμPeCfPiPsP·PëC†C-C— PμPeP·PμPjPμCfC,P°PSCf Cf 2BTM "3 C₇P°P·Pë PiPëC%PëPN₆ PiPsC₇C-PIPSC₇PSPs P·C- P·PrPsC₇PsPiPëPjPë PrPsP±C₇PsPiPsP»CH₆C†C₇PjPë. P'PμC₇CfC†Pë PrPs CfPiP°PiPë PiC₇PsC,,C-P»CH P±PμP·PiPμC†PSPsCfC,C- PμPeP·PμPjPμCfC,P°PSCf, PePsC₇PëPiCfPiP°PSPSC₇ PrPsP·Pë PSPμ PiPsC,C₇C-P±PSPμ.

Р РµР·СѓР»СНС,Р°С,Рё РrPsCѓР»С-РrP¶РµPSCН *in vitro* РiPsPeР°Р·Р°Р»Рё, С°оPs СѓРµPNё Р»С-РeР°СЃСѓСНPePёPNё Р·Р°СѓС-Р± РjРµC,Р°Р±PsР»С-Р·СѓС”С,СНСЃСѓ РiС-Рr PIPiР»РёPIPsРj СѓРёС,PsC...СЃPsРjСѓ Р₄₅₀ 3Рё4 (CYP3Рё4) С,Р° Р°Р»СНPrPsPeРµC,PsСЃРµPrСѓPeC,Р°Р· (PrPёPI. СЃPsР·PrС-Р» В«Р·Р°СЃРjР°РёPsPeC-PSPµC,РёPeР°В») С- PSPµ Р±Р»PsPeСѓС” Р¶PsPrPSPsPiPs Р· PsСѓPSPsPIPSPёC... CYP-С-Р·PsC,,РµСЃРjРµPµPSC,С-PI. РµС-Рr СѓР°Сѓ РeР»С-С-СC-СѓPSPsPiPs С,,Р°СЃРjР°РёPsPePsPeC-PSPµC,РёСѓPSPsPiPs РrPsCѓР»С-РrP¶РµPSPSCЃ Р±СѓР»Р»Ps PICѓС,Р°PSPsPIP»РµPSPs, С°оPs СѓРiРµCѓРёС,,С-СѓPSPµ С-PSPiС-Р±СѓPIP°PSPSCЃ CYP3Рё4 РeРµC,PsPePsPSP°Р·PsР»PsРj PSPµ PIPiР»РёPIP°С” PSP° С,,Р°СЃРjР°РёPsPePsPeC-PSPµC,РёPeСѓ РµPeР·РµРjРµCѓС,Р°PSCѓ. Рj РrPsCѓР»С-РrP¶РµPSPSC- PIP·Р°С”РjPsPrС-С— Р· СЃРёС,,Р°РjРiС-СѓРёPSPsРj, РiPsC,СѓР¶P¶PSPёРj С-PSPrСѓPeC,PsСЃPsРj CYP450, Сѓ РrPsР±PsPIC-PNё РrPsР·С- 600 РjРi С,Р° СЃР°Р·Р·PsPIC-PNё РrPsР·С- РµPeР·РµРjРµCѓС,Р°PSCѓ, С°оPs СѓС,Р°PSPsPIPёC,СН 25 РjРi, Р·PSP°СѓРµPSPSCЃ AUC РµPeР·РµРjРµCѓС,Р°PSCѓ Р·РjРµPSCёРёР»PsСѓСН PSP° 54 %, Р° РŸ_{max} ВЃ” PSP° 41 %. РёСѓРёС-Р»СНPeРё РeР»С-С-СC-СѓPSP° Р·PSP°СѓСѓС°С-СѓС,СН РrР°PSPsС— PIP·Р°С”РjPsPrС-С— PSPµ PIPёPICѓРµPSP°, PsPrPSPsСѓР°СѓСѓРµ Р·Р°СѓС,PsСѓСѓPIP°PSPSCЃ С,Р°PeРёC...

P»C- $\text{PeP}^\circ\text{C}\tilde{\text{H}}\text{C}\tilde{\text{H}}\text{PeP}\tilde{\text{e}}\text{C}\dots$ P·P°CÍPsP±C-PI CÍPe C $\tilde{\text{H}}\text{P}\tilde{\text{e}}\text{C}$, P°PjPíC-C†PēPS,
PíC $\tilde{\text{H}}\text{P}\tilde{\text{e}}\text{C}$, PēCÍCrPrPsPjPSC- P·P°CÍPsP±Pē (PSP°PíC $\tilde{\text{H}}\text{P}\tilde{\text{e}}\text{PeP}$ »P°Pr C,, P μ PSC-C, PsC—PS C-
PeP°C $\tilde{\text{H}}\text{P}\pm$ P°PjP°P·P μ PíC-PS) C, P° C,, C-C, PsPíC $\tilde{\text{H}}\text{P}\mu$ PíP°C $\tilde{\text{H}}\text{P}^\circ\text{C}$, C-PI, C%Ps PjC-CÍC, CÍC, CH
P·PIC-C $\tilde{\text{H}}\text{P}\text{Ps}\pm\text{C}-\text{PN}_2$ P·PIPēC†P°PN $\tilde{\text{e}}$ PSPēPN $\tilde{\text{e}}$, CÍPeC-, CÍPe PIC-PrPsPjPs, C-PSPrCíPeCíC $\tilde{\text{H}}\text{C}$, CH
CYP3P $\tilde{\text{h}}_4$, PjPsP Π CíC, CH P·PSPēP Π CíPIP°C, Pē P μ C,, P μ PeC, PēPIPSC-CÍC, CH
P»C- $\text{PeP}^\circ\text{C}\tilde{\text{H}}\text{C}\tilde{\text{H}}\text{PePsPiPs}$ P·P°CÍPsP±Cí P·PeP·P μ PjP μ CÍC, P°PS-P'C-CÍC, P° P $\tilde{\text{h}}\text{P}\tilde{\text{Y}}$.

P·PeP·P μ PjP μ CÍC, P°PS-P'C-CÍC, P° P $\tilde{\text{h}}\text{P}\tilde{\text{Y}}$ CÍP»C-Pr P·P°CÍC, PsCÍPsPICíPIP°C, Pē P·
PsP±P μ C $\tilde{\text{H}}\text{P}\mu$ P Π PSC-CÍC, CH P· P»C- $\text{PeP}^\circ\text{C}\tilde{\text{H}}\text{C}\tilde{\text{H}}\text{PeP}\tilde{\text{e}}\text{PjP}\tilde{\text{e}}$ P·P°CÍPsP±P°PjPē, C%Ps
PjP μ C, P°P±PsP»C-P·CíC $\tilde{\text{H}}\text{C}$, CHCÍCÍ CYP3A4 C, P° PjP°C $\tilde{\text{H}}\text{C}$, CH PICíP·CHPePēPN $\tilde{\text{e}}$
PrC-P°PíP°P·PsPS C, P μ C $\tilde{\text{H}}\text{P}^\circ\text{PíP}\mu$ PIC, PēC†PSPsC— PrC-C—.
P"PsCÍPIC-Pr PsPrPSPsC†P°CÍPSPsPiPs PeP»C-PSC-C†PSPsPiPs P·P°CÍC, PsCÍCrPIP°PSPSCÍ
P»C- $\text{PeP}^\circ\text{C}\tilde{\text{H}}\text{C}\tilde{\text{H}}\text{PePsPiPs}$ P·P°CÍPsP±Cí P·PeP·P μ PjP μ CÍC, P°PS-P'C-CÍC, P° P $\tilde{\text{h}}\text{P}\tilde{\text{Y}}$ P·
C-PSCēPēPjPē PíC $\tilde{\text{H}}\text{P}\tilde{\text{e}}\text{C}$, PēPíCíC...P»PēPSPSPēPjPē P»C- $\text{PeP}^\circ\text{C}\tilde{\text{H}}\text{C}\tilde{\text{H}}\text{PeP}\tilde{\text{e}}\text{PjP}\tilde{\text{e}}$
P·P°CÍPsP±P°PjPē PIC-PrCÍCrC, PSC-PN $\tilde{\text{e}}$.

P·PeP·P μ PjP μ CÍC, P°PS-P'C-CÍC, P° P $\tilde{\text{h}}\text{P}\tilde{\text{Y}}$ PSP μ CÍP»C-Pr P·P°CÍC, PsCÍPsPICíPIP°C, Pē P·
P»C- $\text{PeP}^\circ\text{C}\tilde{\text{H}}\text{C}\tilde{\text{H}}\text{PeP}\tilde{\text{e}}\text{PjP}\tilde{\text{e}}$ P·P°CÍPsP±P°PjPē, C%Ps PjC-CÍC, CÍC, CH P μ CÍC, C $\tilde{\text{H}}\text{PsPiP}\mu$ PS,
PsCÍPeC-P»CHPePē PíC $\tilde{\text{H}}\text{P}\tilde{\text{e}}$ PsPrPSPsC†P°CÍPSPsPjCí P·P°CÍC, PsCÍCrPIP°PSPSC- C—C...
C,, P°C $\tilde{\text{H}}\text{PjP}^\circ\text{PePsP}$ »PsPiC-C†PSP° PrC-CÍ PSC-PIP μ P»C $\tilde{\text{H}}\text{C}$ "C, CHCÍCÍ.

P $\tilde{\text{h}}$ CÍPsP±P»PēPIPsCÍC, C- P·P°CÍC, PsCÍCíPIP°PSPSCÍ.

P>C- $\text{PeP}^\circ\text{C}\tilde{\text{H}}\text{C}\tilde{\text{H}}\text{PeP}\tilde{\text{e}}\text{PN}_2$ P·P°CÍC-P± P·PeP·P μ PjP μ CÍC, P°PS-P'C-CÍC, P° P $\tilde{\text{h}}\text{P}\tilde{\text{Y}}$ PSP μ CÍP»C-Pr
PíC $\tilde{\text{H}}\text{P}\tilde{\text{e}}\text{P}^\circ\text{PSP}^\circ\text{C}\dagger\text{P}^\circ\text{C}$, Pē P Π C-PSPeP°Pj C-P· PíC $\tilde{\text{H}}\text{P}\mu$ PjP μ PSPsPíP°CíP·PSPēPj
P μ PSPPrPsPeC $\tilde{\text{H}}\text{P}\tilde{\text{e}}\text{PSPSP}\tilde{\text{e}}\text{Pj}$ CÍC, P°C, CíCÍPsPj. P $\tilde{\text{Y}}$ PsPjCí Cí PíC $\tilde{\text{H}}\text{P}\tilde{\text{e}}\text{PN}_2\text{PSCÍC}$, PSPēC...
PeP»C-PSC-C†PSPēC... PIPēPíP°PrPeP°C... PSP μ PsP±C...C-PrPSPs PICÍC, P°PSPsPIPēC, Pē
PíPsCÍC, PjP μ PSPsPíP°CíP·PSPēPN $\tilde{\text{e}}$ CÍC, P°C, CíCÍ CēP»CÍC...PsPj PsC†C-PSPePē C $\tilde{\text{H}}\text{C}$ -PIPSCÍ
P>P", P $\tilde{\text{x}}\text{P}\tilde{\text{Y}}\text{P}^\circ$ C, P μ P μ CÍC, C $\tilde{\text{H}}\text{P}^\circ\text{PrC}$ -PsP»Cí.

P"Ps PíPsC†P°C, PeCí P»C- $\text{PeCíPIP}^\circ\text{PSPSCÍ}$ C-PSPiC-P±C-C, PsC $\tilde{\text{H}}\text{P}^\circ\text{PjP}\tilde{\text{e}}$ P°C $\tilde{\text{H}}\text{PsPjP}^\circ\text{C}$, P°P·Pē
PíPsC, C $\tilde{\text{H}}\text{C}$ -P±PSPs PíC $\tilde{\text{H}}\text{PsPiPsPrP}\tilde{\text{e}}\text{C}$, Pē PsC†C-PSPeCí C $\tilde{\text{H}}\text{C}$ -PIPSCÍ 25-PiC-PrC $\tilde{\text{H}}\text{PsPeCíP}\tilde{\text{e}}$
PIC-C, P°PjC-PSCí D PI PsC $\tilde{\text{H}}\text{PiP}^\circ\text{PSC}$ -P·PjC-, PsCÍPeC-P»CHPePē C†P°CÍC, Ps PIPēPSPēPeP°C"
C, CÍP Π PePēPN $\tilde{\text{e}}$ PrP μ C,, C-C†PēC,, PíPsPIB $\tilde{\text{H}}^\text{TM}$ CÍP·P°PSPēPN $\tilde{\text{e}}$ P· C $\tilde{\text{H}}\text{P}^\circ\text{PSPSC}$ -PjPē
CÍC, P°PrC-CÍPjPē C $\tilde{\text{H}}\text{P}^\circ\text{PeCí}$ PjPsP»PsC†PSPsC— P·P°P»PsP·Pē. P-C-PSPeP°Pj P·
PrP μ C,, C-C†PēC, PsPj PIC-C, P°PjC-PSCí D PSP μ PsP±C...C-PrPSPs PsC, C $\tilde{\text{H}}\text{P}\tilde{\text{e}}\text{PjCíPIP}^\circ\text{C}$, Pē
PrPsPrP°C, PePsPiPs PIC-C, P°PjC-PS D.

P·PeP·P μ PjP μ CÍC, P°PS-P'C-CÍC, P° P $\tilde{\text{h}}\text{P}\tilde{\text{Y}}$ CÍP»C-Pr P· PsP±P μ C $\tilde{\text{H}}\text{P}\mu$ P Π PSC-CÍC, CH
PíC $\tilde{\text{H}}\text{P}\tilde{\text{e}}\text{P}^\circ\text{PSP}^\circ\text{C}\dagger\text{P}^\circ\text{C}$, Pē PíP°C†C-C"PSC, P°Pj P· PíPsC $\tilde{\text{H}}\text{CíC}\epsilon\text{P}\mu\text{PSPSCÍPjP}\tilde{\text{e}}$ C,, CíPSPeC†C-PN $\tilde{\text{e}}$
PíP μ C†C-PSPePē P°P±Ps PSPēC $\tilde{\text{H}}\text{PsPe}$.

P·PeP·P μ PjP μ CÍC, P°PS-P'C-CÍC, P° P $\tilde{\text{h}}\text{P}\tilde{\text{Y}}$ C" P»C- $\text{PeP}^\circ\text{C}\tilde{\text{H}}\text{C}\tilde{\text{H}}\text{PeP}\tilde{\text{e}}\text{Pj}$ P·P°CÍPsP±PsPj,
CÍPePēPN $\tilde{\text{e}}$ CÍPēP»CHPSPs P·PSPēP Π CíC" C $\tilde{\text{H}}\text{C}$ -PIP μ PSC $\tilde{\text{H}}$ P μ CÍC, C $\tilde{\text{H}}\text{PsPiP}\mu$ PSC-PI;
CÍPíPsCÍC, P μ C $\tilde{\text{H}}\text{C}$ -PiP°P»PsCÍCÍ P·PjP μ PSC $\epsilon\text{P}\mu\text{PSPSCÍ}$ PjC-PSP μ C $\tilde{\text{H}}\text{P}^\circ\text{P}$ »CHPSPsC—
C%C-P»CHPSPsCÍC, C- PeC-CÍC, PsPe C, P° P·P±C-P»CHC $\epsilon\text{P}\mu\text{PSPSCÍ}$ C†P°CÍC, PsC, Pē
PíP μ C $\tilde{\text{H}}\text{P}\mu$ P»PsPjC-PI PíC-CÍP»CÍ P·P°CÍC, PsCÍCrPIP°PSPSCÍ P μ PeP·P μ PjP μ CÍC, P°PSCí
(PrPēPI. C $\tilde{\text{H}}\text{PsP}^\circ\text{PrC}$ -P» B<P $\tilde{\text{x}}\text{P}^\circ\text{C}\tilde{\text{H}}\text{PjP}^\circ\text{PePsPrP}\tilde{\text{e}}\text{PSP}^\circ\text{PjC}$ -PeP°B»). P $\acute{\text{k}}$ P° PíPsC†P°C, PeCí
P°PrB $\tilde{\text{H}}^\text{TM}$ C $\tilde{\text{H}}\text{PIP}^\circ\text{PSC}$, PSPsC— C, P μ C $\tilde{\text{H}}\text{P}^\circ\text{PíC}$ -C— P»C- $\text{PeP}^\circ\text{C}\tilde{\text{H}}\text{C}\tilde{\text{H}}\text{PeP}\tilde{\text{e}}\text{Pj}$ P·P°CÍPsP±PsPj Cí
P Π C-PSPsPe, CÍPeC- CÍC, C $\tilde{\text{H}}\text{P}^\circ\text{P}\Pi\text{PrP}^\circ\text{C}\tilde{\text{H}}\text{C}$, CH PSP° PsCÍC, P μ PsPíPsC $\tilde{\text{H}}\text{PsP}$ · P°P±Ps P·

СҫҫӀӀ·ӀӀӀӀӀӀ P№ӀӀӀӀ PIPӀPSPӀӀӀPSPμPSPSCЦ, CГP»C-Pr PsCГC-PSPӀC,ӀӀ
PjC-PSPμCҫP°P»CHPSCГ C%oC-P»CHPSC-CГC,CH ӀӀC-CГC,PsӀӀ PSP° ӀӀPsCГP°C,ӀӀPsPIPjCГ
CҫC-PIPS- , P±P°P·CГCҫCГӀCҫC PSP° ӀӀPsC,PsCГPSPӀC... ӀӀP»C-PSC-CГPSPӀC...
CҫPμӀӀPsPjPμPSPPrP°CГC-CЦC... C,P° ӀӀCҫP°ӀӀC,ӀӀӀP°C.... PҫC-PSPμCҫP°P»CHPSCГ
C%oC-P»CHPSC-CГC,CH ӀӀC-CГC,PsӀӀ CГ ӀӀP°CГC-C”PSC,C-PI P· ӀӀPsCӀӀCҫPμPSPӀPj
P·P°C...PIPjCҫCҫPIP°PSPSCЦPj CГP»C-Pr PsCГC-PSCҫPIP°C,ӀӀ PI
C-PSPPrӀӀPIC-PrCГP°P»CHPSPjCГ ӀӀPsCҫCЦPrӀӀCГ.

PIPsCГP° PSPμPjP°C” PrPsCГC,P°C,PSC-C... PrP°PSPӀC... CГC,PsCГPsPIPSPs PIPiP»ӀӀPICГ
C,PμCҫP°ӀӀC-C— ӀӀC-Pr CГP°CГ P»C-ӀӀCГPIP°PSPSCЦ PIC,CҫP°C,ӀӀ
PjC-PSPμCҫP°P»CHPSPsC— C%oC-P»CHPSPsCГC,C- ӀӀC-CГC,PsӀӀ, CГӀӀCҫPӀCГӀPSPμPSPsC—
PμӀӀP·PμPjPμCГC,P°PSPsPj, PSPμPsP±C...C-PrPSPs ӀӀCҫPsPIPPrӀӀC,ӀӀ PjPsPSC-C,PsCҫPӀPSPi
CГC,P°PSCГ ӀӀP°CГC-C”PSC,C-PI, CЦӀӀC- P·P°CГC,PsCГPsPICГCҫC,CH
P»C-ӀӀP°CҫCГCHӀӀӀP№ P·P°CГC-P± P·ӀӀP·PμPjPμCГC,P°PS-P’C-CГC,P° PҫPҮ, C,P°
CҫPsP·ӀӀPsCГP°C,ӀӀ P»C-ӀӀCГPIP°PSPSCЦ P°P±Ps ӀӀCҫPsC,,C-P»P°ӀӀC,ӀӀӀCГ
PsCГC,PμPsӀPsCҫPsP·CГ CГ ӀӀP°CГC-C”PSC,C-PI CГ P·PsPSC- CҫPӀP·ӀӀӀCГ.

P>C-ӀӀP°CҫCГCHӀӀӀP№ P·P°CГC-P± P·ӀӀP·PμPjPμCГC,P°PS-P’C-CГC,P° PҫPҮ PjPsPҫPμ
CГӀӀPSPӀC,ӀӀ Pjᐁҫ™ CЦӀӀCГ ӀӀCҫPsPSPsCГPSCГ PrC-Cҫ.

*P’P°PҫP»ӀӀPIP° C-PSC,,PsCҫPjP°CГC-CЦ ӀӀCҫPs PrPsӀPsPjC-PҫPSC-
CҫPμCГPsPIPӀPSPӀ.*

PIPμP№ P»C-ӀӀP°CҫCГCHӀӀӀP№ P·P°CГC-P± PjC-CГC,ӀӀC,CH PjPμPSCӀPμ 1 PjPjPsP»CH (23
PjPi)/PrPsP·CГ PSP°C,CҫC-Cҫ, C,PsP±C,Ps ӀӀCҫP°ӀӀC,ӀӀCГPSPs PIC-P»CHPSPӀP№ PIC-Pr
PSP°C,CҫC-Cҫ.

*P—P°CГC,PsCГCӀPIP°PSPSCЦ CӀ ӀӀPμCҫC-PsPr PIP°PiC-C,PSPsCГC,C- P°P±Ps
PiPsPrCӀPIP°PSPSCЦ ӀӀCҫCӀPrPrCҫ.*

P’P°PiC-C,PSC-CГC,CH. PҫP»C-PSC-CГPSC- PrP°PSC- C%oPsPrPs P·P°CГC,PsCГCГPIP°PSPSCЦ
PμӀӀP·PμPjPμCГC,P°PSCГ PIP°PiC-C,PSPӀPj PҫC-PSPӀP°Pj PIC-PrCГCГC,PSC-.
P”PsCГP»C-PrPҫPμPSPSCЦ PSP° C,PIP°CҫPӀPSP°C... ӀӀPsӀP°P·P°P»ӀӀ
CҫPμӀӀCҫPsPrCГӀӀC,ӀӀPIPSCГ C,PsӀCГӀӀCГPSC-CГC,CH, C,PsPjCГ PμӀӀP·PμPjPμCГC,P°PS
ӀӀCҫPsC,ӀӀӀPsӀP°P·P°PSPӀP№ PrP»CЦ P·P°CГC,PsCГCГPIP°PSPSCЦ PIP°PiC-C,PSPӀPj
PҫC-PSPӀP°Pj.

*P”PsPrCӀPIP°PSPSCЦ ӀӀCҫCӀPrPrCҫ. PќPμPIC-PrPsPjPs, CГӀӀ ӀӀCҫPsPSPӀP°C”
PμӀӀP·PμPjPμCГC,P°PS CГ ӀӀCҫCГPrPSPμ PjPsP»PsӀPs. P>C-ӀӀP°CҫCГCHӀӀӀP№ P·P°CГC-P±
PSPμ CГP»C-Pr P·P°CГC,PsCГPsPICГPIP°C,ӀӀ PҫC-PSPӀP°Pj CГ ӀӀPμCҫC-PsPr
PiPsPrCГPIP°PSPSCЦ ӀӀCҫCГPrPrCҫ.*

*P-C-PSPӀPӀ CӀ ӀӀPμCҫPӀPjPμPSPsӀP°CӀP·P°P»CHPSPsPjCӀ ӀӀPμCҫC-PsPrC- P°P±Ps
PҫC-PSPӀPӀ CҫPμӀӀCҫPsPrCӀӀC,ӀӀPIPSPsPiPs PIC-ӀӀCӀ. P>C-ӀӀP°Cҫ PjP°C”
PsP±PiPsPIPjCҫPӀC,ӀӀ PSPμPsP±C...C-PrPSC-CГC,CH PIC-PrӀPsPIC-PrPSPsC—
ӀӀPsPSC,CҫP°CГPμӀӀCГC— P· PҫC-PSPӀP°PjPӀ, CЦӀӀC- PjPsPҫCГC,CH*

P·P°PIP°PiC-C,PSC-C,Pë, P° C,P°PePsP¶ C-P· P¶C-PSPeP°PjPë, C¶PeC-
P·PSP°C...PsPrC¶C,CHCÍC¶ Cí PiPµC¶PëPjPµPSPsPiP°CíP·P°P»CHBPSPsPjCí P°P±Ps
PSPµC%PsPrP°PIPSs PiPµC¶PµPN¿CëP»Pë Cí
PiPsCÍC,PjPµPSPsPiP°CíP·P°P»CHBPSPëPN¿ PiPµC¶C-PsPr, PiPsPePë C—C...
PiPsCÍC,PjPµPSPsPiP°CíP·P°P»CHBPSPëPN¿ CÍC,P°C,CíCÍ PSPµ CÍC,P°PSPµ
PiPsPIPSC-CÍC,CH PICÍC,P°PSPsPIP»PµPSPëPN¿ (PrPëPI. C¶PsP·PrC-P»Pë
B«PµC¶PsC,PëPiPsPeP°P·P°PSPSC¶B» C,P° B«PhCÍPsP±P»PëPIPsCÍC,C-
P·P°CÍC,PsCÍCíPIP°PSPSC¶B»).

*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.*

PµC-Pr C†P°CÍ P·P°CÍC,PsCÍCíPIP°PSPSC¶ P»C-PeP°C¶CíCHPePsPiPs P·P°CÍPsP±Cí
PiPsPIC-PrPsPjP»C¶P»Pë PiC¶Ps CÍPsPSP»PëPIC-CÍC,CH, CÍPsPjPSPsP»PµPSC†C-CH,
P°CÍC,PµPSC-CH C,P° P·P°PiP°PjPsC¶PsC†PµPSPSC¶. PµP°C†C-C°PSC,P°Pj CÍP»C-Pr
PiPsPIC-PrPsPjPëC,Pë PiC¶Ps C,Pµ, C%Ps PI C¶P°P·C- PIPëPSPëPePSPµPSPSC¶ C†PëC...
CÍPëPjPiC,PsPjC-PI PjPsP¶P»PëPIPµ PiPsC¶CíCëPµPSPSC¶ C—C... C,,C-P·PëC†PSPëC...
C,P°/P°P±Ps PiCÍPëC...C-C†PSPëC... C¶PµP°PeC†C-PN¿, PSPµPsP±C...C-PrPSPëC... PrP»C¶
CíPiC¶P°PIP»C-PSPSC¶ P°PIC,PsPjPsP±C-P»PµPj P°P±Ps C-PSCëPëPjPë
PjPµC...P°PSC-P·PjP°PjPë.

P¶PiPsCÍC-P± P·P°CÍC,PsCÍC¿PIP°PSPSC¶ C,P° PrPsP·Pë.

P°PsC¶PsCÍP»C-, PI C,PsPjC¿ C†PëCÍP»C- PiP°C†C-C°PSC,PePë P»C-C,PSCHPsPiPs PIC-PeC¿.

P·PeP·PµPjPµCÍC,P°PS-P'C-CÍC,P° PhP¶ C¶PµPePsPjPµPSPrCíC°C,CHCÍC¶ PiC¶PëPN¿PjP°C,Pë
PiPs 25 PjPi 1 C¶P°P· PSP° PrPsP±Cí, C%PsPrPµPSPSPs, P±P°P¶P°PSPs PiC-CÍP»C¶ C—PrPë. Pj
PiP°C†C-C°PSC,PsPe C-P· C¶P°PePsPj PjPsP»PsC†PSPsC— P·P°P»PsP·Pë PSP° C¶P°PSPSC-C...
CÍC,P°PrC-C¶C... P»C-PeCíPIP°PSPSC¶ P·P° PrPsPiPsPjPsPiPsCH P»C-PeP°C¶CíCHPePsPiPs
P·P°CÍPsP±Cí P·PeP·PµPjPµCÍC,P°PS-P'C-CÍC,P° PhP¶ PSPµPsP±C...C-PrPSPs
PiC¶PsPrPsPIP¶CíPIP°C,Pë PrPs P·P°PIPµC¶CëPµPSPSC¶ PiB¶™ C¶C,PëC¶C-C†PSPsC—
PiPsCÍP»C-PrPsPIPSsC— P°PrB¶™ CHPIP°PSC,PSPsC— PiPsC¶PjPsPSP°P»CHBPSPsC—
C,PµC¶P°PiC-C— (PiC¶PsPrPsPIP¶PµPSPSC¶ C,PµC¶P°PiC-C— P·PeP·PµPjPµCÍC,P°PS-
P'C-CÍC,P° PhP¶ PiC-CÍP»C¶ P·P°CÍC,PsCÍCíPIP°PSPSC¶ C,P°PjPsPeCÍPëC,,PµPSCí) P°P±Ps
PrPs PIPëPSPëPePSPµPSPSC¶ C¶PµC†PëPrPëPICí PiCíC...P»PëPSPë.

Pj PiP°C†C-C°PSC,PsPe C-P· PiPsCëPëC¶PµPSPëPj C¶P°PePsPj PjPsP»PsC†PSPsC— P·P°P»PsP·Pë
P»C-PeCíPIP°PSPSC¶ P»C-PeP°C¶CíCHPePëPj P·P°CÍPsP±PsPj P·PeP·PµPjPµCÍC,P°PS-
P'C-CÍC,P° PhP¶ CÍP»C-Pr PiC¶PsPrPsPIP¶CíPIP°C,Pë, PiPsPePë PiC¶PsPiC¶PµCÍC-C¶
PiCíC...P»PëPSPë PsC†PIPëPrPSP°.

PµP°C†C-C°PSC,PeP°Pj C-P· PSPµPrPsCÍC,P°C,PSC-CÍC,CH C,,CíPSPeC†C-C— PiPµC†C-PSPePë
P°P±Ps PSPëC¶PsPe PePsC¶PµPeC†C-C¶ PrPsP·Pë PSPµ PiPsC,C¶C-P±PSP°.

P°C-C,Pë.

$$\text{P}^{\text{r}}\text{C}-\text{P}^{\text{r}}\text{CH}_3\text{C}\equiv\text{C}-\text{C}^{\text{r}}\text{C}, \text{CH}_3\text{PSPuP}\pm\text{P}^{\text{r}}\text{P}^{\text{r}}\text{PSPeC}\dots \text{C}\text{IPIPeC}\%_{\infty} \text{PjPsP}^{\text{r}}\text{PuP}\pm\text{C}^{\text{r}}\text{C}, \text{Pe}$$

PiPsClijCfPSPµPSPs PSPsCḡPjP°P»CHbPSPëPjPë C,,P°CḡPjP°PePsP»PsPiC-CḡPSPëPjPë
PSP°CfP»C-PrPeP°PjPë P±P»PsPeCfPIP°PSPSClij PµCfC,CḡPsPiPµPSCf (PSP°PïCḡPëPeP»P°Pr,
PïCḡPëPiP»PëPIPë).

PµPsP±C-CḡPSC- CḡPµP°PeC†C-C—, P·P°CḡPµC”CfC,CḡPsPIP°PSC- PïCḡPsC,ClijPiPsPj
PeP»C-PSC-CḡPSPëC... PrPsCfP»C-PrP¶PµPSCḡ C,P° PrPsCfPIC-PrCf
PiPsCfC,CḡPµC”CfC,CḡP°C†C-PNëPSPsPiPs P·P°CfC,PsCfCfPIP°PSPSClij
P»C-PeP°CḡCfCHbPePsPiPs P·P°CfPsP±Cf PSP°PIPµPrPµPSPs PSPëP¶CḡPµ PIC-PrPiPsPIC-PrPSPs
PrPs PeP»P°CfC-PI CfPëCfC,PµPj PsCḡPiP°PSC-PI C,P° CḡP°CfC,PsC,Pë PïCḡPsClijPIC-PI.
PµPsPeP°P·PSPëPePë CḡP°CfC,PsC,Pë PIPëP·PSP°CḡP°CḡC,CHb PSP°CfC,CfPïPSPëPj CḡPëPSPsPj:
PrCfP¶Pµ CḡP°CfC,Ps (≥ 1/10), CḡP°CfC,Ps (PIC-Pr ≥ 1/100 PrPs < 1/10), PSPµCḡP°CfC,Ps
(PIC-Pr ≥ 1/1000 PrPs < 1/100), CḡC-PrPePs (PIC-Pr ≥ 1/10000 PrPs < 1/1000), PrCfP¶Pµ
CḡC-PrPePs (< 1/10000), CḡP°CfC,PsC,P° PSPµPIC-PrPsPjP° (PSPµ PjPsP¶PSP°
PICfC,P°PSPsPIPëC,Pë PSP° PïC-PrCfC,P°PIC- PSP°ClijPIPSPëC... PrP°PSPëC...).

P— P±PsPeCž CfPëCfC,PµPjPë PeCḡPsPIC- C,P° P»C-PjC,,P°C,PëCḡPSPsC— CfPëCfC,PµPjPë:
*PrCfP¶Pµ CḡP°CfC,Ps bḡ“ P»PµPNëPePsPiPµPSC-Clij**;*

*CḡP°CfC,Ps bḡ“ C,CḡPsPjP±PsC†PëC,PsPiPµPSC-Clij**;*

CḡP°CfC,PsC,P° PSPµPIC-PrPsPjP° bḡ“ P·PSPëP¶PµPSPSClij PeC-P»CHbPePsCfC,C-
*P»C-PjC,,PsC†PëC,C-PI**.*

P— P±PsPeCž C-PjCžPSPSPsC— CfPëCfC,PµPjPë:

PSPµCḡP°CfC,Ps bḡ“ PiC-PiPµCḡCḡCfC,P»PëPIC-CfC,CHb.

PḡPµC,P°P±PsP»C-CḡPSC- C,P° P°P»C-PjPµPSC,P°CḡPSC- CḡPsP·P»P°PrPë:

CḡP°CfC,Ps bḡ“ P°PSPsCḡPµPeCfC-Clij.

P— P±PsPeCž PïCfPëC...C-PePë:

PrCfP¶Pµ CḡP°CfC,Ps bḡ“ PrPµPïCḡPµCfC-Clij, P±PµP·CfPsPSPSClij.

P— P±PsPeCž PSPµCḡPIPsPIPsC— CfPëCfC,PµPjPë:

PrCfP¶Pµ CḡP°CfC,Ps bḡ“ PiPsP»PsPIPsPëPNë P±C-P»CHb, P·P°PiP°PjPsCḡPsCḡPµPSPSClij;

CḡP°CfC,Ps bḡ“ CfPëPSPrCḡPsPj PeP°CḡPiP°P»CHbPSPsPiPs PeP°PSP°P»Cf,
PïP°CḡPµCfC,PµP·C-Clij; CḡC-PrPePs bḡ“ CfPsPjPSPsP»PµPSC†C-Clij.

P— P±PsPeCž CfCžPrPëPS:

PrCfP¶Pµ CḡP°CfC,Ps bḡ“ PïCḡPëPiP»PëPIPë.

P— P±PsPeCž CëP»CžPSPePsPIPs-PePëCëPePsPIPsPiPs C,CḡP°PeC,Cž:

PrCfP¶Pµ CḡP°CfC,Ps bḡ“ P±C-P»CHb Cf P¶PëPIPsC,C-, PSCfPrPsC,P°;

CḡP°CfC,Ps bḡ“ P±P»CḡPIP°PSPSClij, PrC-P°CḡPµClij, P·P°PiPsCḡ, PrPëCfPiPµPiCfC-Clij.

P— P±PsPeCž PiPµPiP°C,PsP±C-P»C-P°CḡPSPsC— CfPëCfC,PµPjPë:

PrCfP¶Pµ C‡P°CfC,Ps БҢ“ PiC-PrPIPëC%PµPSC- CҢC-PIPSC- PïPµC‡C-PSPePsPIPëC...
C,,PµCҢPjPµPSC,C-PI, PiC-PrPIPëC%PµPSC- CҢC-PIPSC- P±C-P»C-CҢCfP±C-PSCf PI
PeCҢPsPIC-, PiC-PrPIPëC%PµPSC- CҢC-PIPSC- P»CfP¶PSPsC— C,,PsCfC,,P°C,P°P·Pë PI
PeCҢPsPIC-;

CҢC-PrPePs БҢ“ PiPµPiP°C,PëC,^{БҢ}, C...PsP»PµCfC,P°C,PëC‡PSPëPNë PiPµPiP°C,PëC,^{БҢ}.

P— P±PsPeCž CëPeC-CҢPë C,P° PiC-PrCëPeC-CҢPSPsC— PeP»C-C,PePsPIPëPSPë:

PrCfP¶Pµ C‡P°CfC,Ps БҢ“ PiC-PrPIPëC%PµPSP° PiC-C,P»PëPIC-CfC,CH;

C‡P°CfC,Ps БҢ“ P°P»PsPiPµC‡C-Cl, PIPëCfPëPiP°PSPSCl, PeCҢPsPiPëPiБҢ™ ClPSPeP°,
CfPIPµCҢP±C-P¶; CҢC-PrPePs БҢ“ PiPsCfC,CҢPëPNë PiPµPSPµCҢP°P»C-P·PsPIP°PSPëPNë
PµPeP·P°PSC,PµPjP°C,PsP·PSPëPNë PïCfCfC,CfP»CHPsP.^{БҢ}.

P— P±PsPeCž PsPiPsCҢPSPs-CҢCžC...PsPIPsPiPs P°PiP°CҢP°C,Cž C,P° PeC-CfC,PsPe:

PrCfP¶Pµ C‡P°CfC,Ps БҢ“ P±C-P»CH Cf CfCfPiP»PsP±P°C... C,P° PjБҢ™ ClP·PsPIPs-
CfPePµP»PµC,PSPëPNë P±C-P»CH*;

C‡P°CfC,Ps БҢ“ PiPµCҢPµP»PsPj, PsCfC,PµPsPiPsCҢPsP.

P—P°PiP°P»CHPSC- CҢPsP·P»P°PrPë C,P° CҢPµP°PeC‡C-C— Cž PjC-CfC‡C- PIPIPµPrPµPSPSCl:
PrCfP¶Pµ C‡P°CfC,Ps БҢ“ P±C-P»CH, PiC-PrPIPëC%PµPSP° PIC,PsPjP»CҢPIP°PSC-CfC,CH;
C‡P°CfC,Ps БҢ“ PiPµCҢPëC,,PµCҢPëC‡PSPëPNë PSP°P±CҢClPe, P°CfC,PµPSC-Cl.

* P'PeP»CҢC‡P°C" P°CҢC,CҢP°P»PiC-CҢ C,P° CҢC-PrCëPµ P±C-P»CH Cf PeC-PSC‡C-PIPeP°C...,
PsCfC,PµPsP°CҢC,CҢPëC,, P±C-P»CH Cf CfPiPëPSC-, P°CҢC,CҢPëC,, PjC-P°P»PiC-CҢ C,P°
CfPeCfC,C-CfC,CH CfCfPiP»PsP±C-PI.

** PJ PiP°C‡C-C"PSC,C-PI P· PiPsCëPëCҢPµPSPëPj CҢP°PePsPj PjPsP»PsC‡PSPsC— P·P°P»PsP·Pë
PIPëPiP°PrPePë C,CҢPsPjP±PsC‡PëC,PsPiPµPSC-C— C,P° P»PµPNëPePsPiPµPSC-C—
CҢPµC"CfC,CҢCfPIP°P»PëCfCl CҢC-PrPePs. PµPµCҢC-PsPrPëC‡PSPµ P·PSPëP¶PµPSPSCl
PeC-P»CHPePsCfC,C- P»C-PjC,,PsC‡PëC,C-PI CfPiPsCfC,PµCҢC-PiP°P»PsCfCl
PiCҢPëP±P»PëP·PSPs Cf 20 % PiP°C‡C-C"PSC,C-PI, ClPeC- PsC,CҢPëPjCfPIP°P»Pë
PµPeP·PµPjPµCfC,P°PS, P·PsPeCҢPµPjP° Cf PiP°C‡C-C"PSC,C-PI P· CfP¶Pµ PSP°ClPIPSpCҢ
P»C-PjC,,PsPiPµPSC-C"CH. PýPëPj PSPµ PjPµPSCëPµ, CfPµCҢPµPrPSC- P·PSP°C‡PµPSPSCl
PeC-P»CHPePsCfC,C- P»C-PjC,,PsC‡PëC,C-PI Cf C‡PëC... PiP°C‡C-C"PSC,C-PI P·
PiPµCҢPµP±C-PiPsPj C‡P°CfCf P·PSP°C‡PSPs PSPµ P·PjC-PSCҢPIP°P»PëCfCl C,P°
PIC-PrPiPsPIC-PrPSPsPiPs PiC-PrPIPëC%PµPSPSCl C‡P°CfC,PsC,Pë PIC-CҢCfCfPSPëC...
C-PSC,,PµPeC‡C-PNë PSPµ CfPiPsCfC,PµCҢC-PiP°P»PsCfCl. P|C- PµC,,PµPeC,Pë PSPµ
CfPiPsCfC,PµCҢC-PiP°P»PëCfCl Cf PiP°C‡C-C"PSC,C-PI, ClPeC- PsC,CҢPëPjCfPIP°P»Pë
P»C-PeCfPIP°PSPSCl Cf PrPsCfP»C-PrP¶PµPSPSClC... CҢP°PeCf PjPsP»PsC‡PSPsC—
P·P°P»PsP·Pë CҢP°PSPSC-C... CfC,P°PrC-PNë.

^{БҢ} P§P°CfC,PsC,P°, CҢPsP·CҢP°C...PsPIP°PSP° P·P° PiCҢP°PIPëP»PsPj 3/X.

PJ C,P°P±P»PëC‡C- PSPëP¶C‡Pµ PSP°PIPµPrPµPSPs PiPsPeP°P·PSPëPePë C‡P°CfC,PsC,Pë
PiPsPiPµCҢPµPrPSCҢPs PIPëP·PSP°C‡PµPSPëC... PiPsP±C-C‡PSPëC... CҢPµP°PeC‡C-PNë C,P°
P·P°C...PIPsCҢCҢPIP°PSCҢ Cf PҢC-P¶PiCҢCfPiPsPIPsPjCf PrPsCfP»C-PrP¶PµPSPSC-
PµPeP·PµPjPµCfC,P°PSCf Cf PiP°C‡C-C"PSC,C-PI P· CҢP°PePsPj PjPsP»PsC‡PSPsC—

P·P°P»PsP·Pë CĤP°PSPSC-C... CĤC,P°PrC-PNë, PSPµP·P°P»PµP¶PSPs PIC-Pr
 PĭCĤPëC±PëPSPSPsC— P·CrPjPsPIP»PµPSPsCĤC,C-, P·P°CĤPµC”CĤC,CĤPsPIP°PSPëC... Cr
 PĭP°C†C-C”PSC,C-PI, CĤPeC- PsC,CĤPëPjCrPIP°P»Pë C,PµCĤP°PĭC-CĤ
 PrPsCĤP»C-PrP¶CĤPIP°PSPëPj P»C-PeP°CĤCĤPePëPj P·P°CĤPsP±PsPj C,P° PĭCĤPsC,CĤPiPsPj
 PĭPµCĤC-PsPrCr PrPs 30 PrPSC-PI PĭC-CĤP»CĤ C— P·P°PIPµCĤCëPµPSPSCĤ.

PµPsP±C-C±PSC- CĤPµP°PeC†C-C— C,P° P·P°C...PIPsCĤCĤPIP°PSPSCĤ	P·PeP·PµPjPµCĤC,P°PS (N = 2249)	PŷP°PjPsPeCĤPëC,,PµPS (N = 2279)
PµCĤPëPĭP»PëPIPë	491 (21,8 %)	457 (20,1 %)
PµC-PrPIPëC%oPµPSP° PIC,PsPjP»CĤPIP°PSC-CĤC,CĤ	367 (16,3 %)	344 (15,1 %)
P”PsP»PsPIPSPëPNë P±C-P»CĤ	305 (13,6 %)	255 (11,2 %)
P’PµP·CĤPsPSPSCĤ	290 (12,9 %)	204 (9,0 %)
PµC-PrPIPëC%oPµPSP° PĭC-C,P»PëPIC-CĤC,CĤ	270 (12,0 %)	242 (10,6 %)
P”C-PSPµPePsP»PsPĭC-C±PSC- P·P°C...PIPsCĤCĤPIP°PSPSCĤ	235 (10,5 %)	340 (14,9 %)
P—P°PĭP°PjPsCĤPsC±PµPSPSCĤ	224 (10,0 %)	200 (8,8 %)
PkCrPrPsC,P°	200 (8,9 %)	208 (9,1 %)
PhCĤC,PµPsPĭPsCĤPsP·	116 (5,2 %)	66 (2,9 %)
P’P°PĭC-PSP°P»CĤPSP° PeCĤPsPIPSc,PµC±P°	90 (4,0 %)	121 (5,3 %)
P†PSCëPëPNë PĭPµCĤPIPëPSPSPëPNë CĤP°Pe	84 (3,6 %)	125 (5,3 %)
P’P»CĤPIP°PSPSCĤ	50 (2,2 %)	54 (2,4 %)
PµPsCĤCrCëPµPSPSCĤ P·PsCĤCr	45 (2,0 %)	53 (2,3 %)
PŷCĤPsPjP±PsPµPjP±PsP»C-CĤ	16 (0,7 %)	42 (1,8 %)
PhCĤC,PµPsPĭPsCĤPsP·PSPëPNë PĭPµCĤPµP»PsPj	14 (0,6 %)	12 (0,5 %)
P†PSC,,P°CĤPeC, PjC-PsPeP°CĤPrP°	13 (0,6 %)	4 (0,2 %)

Pj PjC-P¶PĭCĤCrPĭPsPIPsPjCr PrPsCĤP»C-PrP¶PµPSPSC- PµPeP·PµPjPµCĤC,P°PSCr
 C±P°CĤC,PsC,P° CĤPIPëC%o C-CëPµPjC-C— PjC-PsPeP°CĤPrP° Cr PĭCĤCrPĭP°C...
 P»C-PeCrPIP°PSPSCĤ PµPeP·PµPjPµCĤC,P°PSPsPj C,P° C,P°PjPsPeCĤPëC,,PµPSPsPj
 CĤC,P°PSPsPIPëP»P° 4,5 % C,P° 4,2 % PIC-PrPĭPsPIC-PrPSPs.
 P-PsPrPSPëC... P·PSP°C†CĤC%oPëC... PIC-PrPjC-PSPSPsCĤC,PµPNë PrP»CĤ P±CrPrCĤ-
 CĤPePëC... PsPeCĤPµPjPëC... CĤPµCĤC†PµPIPs-CĤCrPrPëPSPSPëC... CĤPIPëC%o, Cr C,PsPjCr
 C±PëCĤP»C- P°CĤC,PµCĤC-P°P»CĤPSPSc— PĭC-PĭPµCĤC,PµPSP·C-C— (9,9 %
 PĭPsCĤC-PIPSCĤPSPs P· 8,4 %), C-PSC,,P°CĤPeC,Cr PjC-PsPeP°CĤPrP° (0,6 %
 PĭPsCĤC-PIPSCĤPSPs P· 0,2 %) C,P° CĤPµCĤC†PµPIPsC— PSPµPrPsCĤC,P°C,PSPsCĤC,C- (1,1 %
 PĭPsCĤC-PIPSCĤPSPs P· 0,7 %) PSPµ CĤPĭPsCĤC,PµCĤC-PĭP°P»PsCĤCĤ. Pj
 PjC-P¶PĭCĤCrPĭPsPIPsPjCr PrPsCĤP»C-PrP¶PµPSPSC- PµPeP·PµPjPµCĤC,P°PSCr
 P·P°CĤC,PsCĤCrPIP°PSPSCĤ PµPeP·PµPjPµCĤC,P°PSCr CĤCrPĭCĤPsPIPsPrP¶CĤPIP°P»PsCĤCĤ
 PIPëC%oPsCĤ C±P°CĤC,PsC,PsCĤ PĭC-PĭPµCĤC...PsP»PµCĤC,PµCĤPëPSPµPjC-C—
 PĭPsCĤC-PIPSCĤPSPs P· P·P°CĤC,PsCĤCrPIP°PSPSCĤPj C,P°PjPsPeCĤPëC,,PµPSCr (3,7 %
 PĭPsCĤC-PIPSCĤPSPs P· 2,1 %).

P’ PsPeCĤPµPjPsPjCr PĭPsPrPIC-PNëPSPsPjCr CĤP»C-PĭPsPjCr CĤP°PSPPrPsPjC-P·PsPIP°PSPsPjCr
 PrPsCĤP»C-PrP¶PµPSPSC- CĤPµCĤPµPr P¶C-PSPsPe Cr PĭPµCĤC-PsPr
 PĭPsCĤC,PjPµPSPsPĭP°CrP·Pë P· CĤP°PePsPj PjPsP»PsC±PSPsC— P·P°P»PsP·Pë CĤP°PSPSC-C...
 CĤC,P°PrC-PNë Cr PĭCĤCrPĭC- PSPëP·CĤPePsPĭPs CĤPëP·PëPeCr, CĤPeC- PsC,CĤPëPjCrPIP°P»Pë
 P»C-PeCrPIP°PSPSCĤ PµPeP·PµPjPµCĤC,P°PSPsPj (N = 73) P°P±Ps PĭP»P°C†PµP±Ps (N = 73)

ПісC,ЦіPіPj 24 PjC-ГіCЦіC-PI, P°P°CГіC,PsCГіCрPіP°PSPSCЦі PμPεP·PμPjPμCГіC,P°PSCр
 P°CГіPsCГіC-СҺPіP°P»PsCГіCЦі P·C- P·PSPεP¶PμPSPSCЦіPj CГіC-PIPSC-PI
 C...PsP»PμCГіC,PμCГіPεPSCр P»PμP°P° Cр PіP»P°P·PjC- PεCГіPsPIC- PI CГіPμCГіPμPrPSCҺPsPjCр
 PSP° 7БГі“9 % PіPsCГіC-PIPSCЦіPSPs P· PіC-PrPіPεC°PμPSPSCЦіPj PSP° 1 % Cр PіCГіCрPіC-
 PіP»P°CГіPμP±Ps. PыP°PεPsP¶ CГіPіPsCГіC,PμCГіC-PіP°P»PsCГіCЦі P·PSPεP¶PμPSPSCЦі
 CГіC-PIPSC-PI P°PіPsP»C-PіPsPіCГіPsC,PμC—PSCр A1 PSP° 5БГі“6 % Cр PіCГіCрPіC-
 P»C-PεCрPіP°PSPSCЦі PμPεP·PμPjPμCГіC,P°PSPsPj PіPsCГіC-PIPSCЦіPSPs P·C-
 P·PSPεP¶PμPSPSCЦіPj PSP° 0БГі“2 % Cр PіCГіCрPіC- PіP»P°CГіPμP±Ps. P’PіP»PεPI PSP° PіCГіC-
 C-PSCεC- PіCГіPsP°PSP°P»C-P·PsPіP°PSC- PіP°CГіP°PjPμC,CГіPε P»C-PіC-PrC-PI (CГіC-PIPSC-
 P·P°PіP°P»СҺPSPsPіPs C...PsP»PμCГіC,PμCГіPεPSCр P»PμPкP°,
 C,CГіPεPіP»C-СГіPμCГіPεPrC-PI, P°PіPsP»C-PіPsPіCГіPsC,PμC—PSCр-B C-
 P»C-PіPsPіCГіPsC,PμC—PSCр-P°) P±CрPI P°PSP°P»PsPіC-CГіPSPεPj Cр PrPіPsC... PіCГіCрPіP°C...
 P»C-PεCрPіP°PSPSCЦі. PыP»C-PSC-CГіPSP° P·PSP°CГіC°C°C-ГіC,СҺ C,P°PεPεC...
 CГіPμP·CрP»СҺC,P°C,C-PI PSPμPIC-PrPsPjP°.

Pj PjC-P¶PіCГіCрPіPsPіPsPjCр PrPsCГіP»C-PrP¶PμPSPSC- PμPεP·PμPjPμCГіC,P°PSCр
 PіPεCГіP°P·PεP° CεP»CрPSPεP° CГіPіPsCГіC,PμCГіC-PіP°P»P°CГіCЦі P· P±C-P»СҺCεPsCГі
 CГіP°CГіC,PsC,PsCГі Cр PіCГіCрPіC- P»C-PεCрPіP°PSPSCЦі PμPεP·PμPjPμCГіC,P°PSPsPj
 PіPsCГіC-PIPSCЦіPSPs P· PіCГіCрPіPsCГі P»C-PεCрPіP°PSPSCЦі C,P°PjPsPεCГіPεC„PμPSPsPj (0,7 %
 PіPsCГіC-PIPSCЦіPSPs P· < 0,1 %). P’C-P»СҺCεC-ГіC,СҺ PіP°CГіC-C”PSC,C-PI, ЦіPεC-
 P·P°CГіC,PsCГіPsPICрPіP°P»Pε PμPεP·PμPjPμCГіC,P°PS C- PjP°P»Pε PіPεCГіP°P·PεCр
 CεP»CрPSPεP°, C,P°PεPsP¶ PsPrPSPsCГіP°CГіPSPs P·P°CГіC,PsCГіPsPICрPіP°P»Pε
 PSPμCГіC,PμCГіPsC—PrPSC- PіCГіPsC,PεP·P°PіP°P»СҺPSC- PіCГіPμPіP°CГіP°C,Pε C,P°/P°P±Ps
 P·P°CГіC,PsCГіPsPICрPіP°P»Pε C—C... CГіP°PSC-CεPμ.

PμPsPIC-PrPsPjP»PμPSPSCЦі PіCГіPs PіC-PrPsP·CГіCҺPіP°PSC- PіPsP±C-CГіPSC-
 CГіPμP°PεCГіC-C—.

PμPsPIC-PrPsPjP»PμPSPSCЦі PіCГіPs PіPsP±C-CГіPSC- CГіPμP°PεCГіC-C— PіC-ГіP»CЦі
 CГіPμC”CГіC,CГіP°CГіC-C— P»C-PεP°CГіCҺPεPsPіPs P·P°CГіPsP±Cр PjP°C” PіP°P¶P»PεPіPμ
 P·PSP°CГіPμPSPSCЦі. PіPμ PrP°C” P·PjPsPіCр PіCГіPsPіPsPrPεC,Pε PjPsPSC-C,PsCГіPεPSPі
 CГіPіC-PIPIC-PrPSPsCεPμPSPSCЦі PεPsCГіPεCГіC,СҺ/CГіPεP·PεPε PіCГіPε
 P·P°CГіC,PsCГіCрPіP°PSPSC- CГіCҺPsPіPs P»C-PεP°CГіCҺPεPsPіPs P·P°CГіPsP±Cр.
 PыPμPrPεCГіPSPεPj C,P° C„P°CГіPjP°CГіPμPIC,PεCГіPSPεPj PіCГіP°CГіC-PIPSPεPεP°Pj, P°
 C,P°PεPsP¶ PіP°CГіC-C”PSC,P°Pj P°P±Ps C—C... P·P°PεPsPSPSPεPj PіCГіPμPrCГіC,P°PіPSPεPεP°Pj
 CГіP»C-Pr PіPsPIC-PrPsPjP»CЦіC,Pε PіCГіPs CрCГіC- PіPεPіP°PrPεPε PіC-PrPsP·CГіCҺPіP°PSPεC...
 PіPsP±C-CГіPSPεC... CГіPμP°PεCГіC-PNε C,P° PIC-PrCГіCрC,PSPsCГіC,C-
 PμC„PμPεC,PεPіPSPsCГіC,C- P»C-PεP°CГіCҺPεPsPіPs P·P°CГіPsP±Cр PrPs
 P”PμCГіP¶P°PіPSPsPіPs PμPεCГіPіPμCГіC,PSPsPіPs CГіPμPSC,CГіCр PыPыP— PjPεCГіP°C—PSPε
 P·P° PіPsCГіPεP»P°PSPSCЦіPj: <https://aisf.dec.gov.ua/>

PыPμCГіPjC-PS PіCГіPεPrP°C,PSPsCГіC,C-. 3 CГіPsPεPε.

PjPjPsPіPε P·P±PμCГіC-PіP°PSPSCЦі.

PкPμ PіPsC,CГіPμP±CрC” CГіPіPμCГіC-P°P»СҺPSPεC... CрPjPsPI P·P±PμCГіC-PіP°PSPSCЦі.
 P—P±PμCГіC-PіP°C,Pε PI PSPμPrPsCГіC,CрPіPSPsPjCр PrP»CЦі PrC-C,PμPNε PjC-ГіCГіC-.

PJPiP°PePsPIPeP°.

PμPs 10 C,P°P±P»PμC,PsPe Cr P±P»C-CÍC,PμCḡC-; PīPs 3 P±P»C-CÍC,PμCḡPë Cr PīP°C‡C†C- P·
PeP°CḡC,PsPSCr.

PљP°C,PμPiPsCḡC-Cḡ PIC-PrPīCrCÍPeCr.

P—P° CḡPμC†PμPīC,PsPj.

P’PëCḡPsP±PSPëPe.

P PμPjPμPrC-PeP° P>C-PjC-C,PμPr

**PњC-CÍC†PμP·PSP°C...PsPrP¶PμPSPSCḡ PIPëCḡPsP±PSPëPeP° C,P° P°PrCḡPμCÍP°
PjC-CÍC†Cḡ PīCḡPsPIP°PrP¶PμPSPSCḡ PNᵒPsPiPs PrC-CḡP»CḤPSPsCÍC,C-**

PICrP». PḡC...P°CḡPSPsPS, P>C-PjP°CÍPsP» P†PSPPrP°CÍC,CḡC-P°P» P•CÍC,PμPNᵒC,,
P>C-PjP°CÍPsP», 3056, PљC-PīCḡ.