

PyP°P±P»PμC,PePë, PIPECĤPëC,C- PîP»C-PIPePsPIPsCĤ PsP±PsP»PsPSPePsCĤ, PîPs 7 PjPi:
 PIC-Pr PrCrP¶Pμ CĴPIC-C,P»Ps-P·PμP»PμPSCrPIP°C,Ps-P±P»P°PePëC,PSPs-CĴC-CĤPSPiPs PrPs
 P±P»C-PrPs-P·PμP»PμPSCrPIP°C,Ps-P±P»P°PePëC,PSPsPiPs PePsP»CHbPsCĤCr
 CĤPμCĴC,PëPeCrC,PSC- C,P°P±P»PμC,PePë, PIPECĤPëC,C- PîP»C-PIPePsPIPsCĤ
 PsP±PsP»PsPSPePsCĤ, PrC-P°PjPμC,CĤPSPj 7,5 PjPj, P· PIC-PrC,PëCĴPePsPj PîPjC-CĴC,Cr
 PrC-CĤC±PsC— CĤPμC±PsPIPëPSPë Cr PIPëPiP»CĴPrC- CĴPëC,CĤPë B«7B» P· PsPrPSPsPiPs

P±PsPeCf C,P° PIPëPiCtjP°PIC-CHPIP°PSPëPj PePsCtjPiPsCtjP°C,PëPIPSPëPj P»PsPiPsC,PëPiPsPj P· C-PSC€PsPiPs.

PÿP°P±P»PµC,PePë, PIPECtjPëC,C- PïP»C-PIPEsPIPsCtj PsP±PsP»PsPSPePsCtj, PïPs 14 PjPi: P±P»C-PrPs-P±P»P°PePëC,PSC- PïBtj™ C¼C,PëPeCfC,PSC- C,P°P±P»PµC,PePë, PIPECtjPëC,C- PïP»C-PIPEsPIPsCtj PsP±PsP»PsPSPePsCtj, PrC-P°PjPµC,CtjPsPj 7,5 PjPj, P· PIC-PrC,PëCfPePsPj PIPjC-CfC,Cf PrC-CHC±PsC— CtjPµC±PsPIPëPSPë Cf PIPëPiP»C¼PrC- CtPëC„CtjPë B«14B» P· PsPrPSPsPiPs P±PsPeCf C,P° PIPëPiCtjP°PIC-CHPIP°PSPëPj PePsCtjPiPsCtjP°C,PëPIPSPëPj P»PsPiPsC,PëPiPsPj P· C-PSC€PsPiPs.

PαP°CtjPjP°PePsC,PµCtjP°PïPµPIC,PëC±PSP° PiCtjCfPïP°.

PtjPSC,PëPSPµPsPïP»P°CfC,PëC±PSC- C,P° C-PjCfPSPsPjPsPrCfP»CHCHC±C- P·P°CfPsP±Pë. P†PjCfPSPsCfCfPïCtjPµCfP°PSC,Pë. P†PSPiC-P±C-C,PsCtjPë PrPëPiC-PrCtjPsPsCtjPsC,P°C,PrPµPiC-PrCtjPsPiPµPSP°P·Pë (P°P°PhP°P°). PÿPµCtjPëC„P»CfPSPsPjC-Pr.

PлPsPr PtjPÿPΓ L04AK02.

PαP°CtjPjP°PePsP»PsPiC-C±PSC- PIP»P°CfC,PëPIPsCfC,C-.

PαP°CtjPjP°PePsPrPëPSP°PjC-PeP°.

PµPµC...P°PSC-P·Pj PrC-C—

PÿPµCtjPëC„P»CfPSPsPjC-Pr Btj° C-PjCfPSPsPjPsPrCfP»CHCHC±PëPNë P·P°CfC-P± P· PïCtjPsC,PëP·P°PïP°P»CHPSPëPjPë PIP»P°CfC,PëPIPsCfC,C¼PjPë, C%°Ps CfPµP»PµPeC,PëPIPSPs C,P° PsP±PsCtjPsC,PSPs C-PSPiC-P±CfC” PjC-C,PsC...PsPSPrCtjC-P°P»CHPSPëPNë C„PµCtjPjPµPSC, PrPëPiC-PrCtjPsPsCtjPsC,P°C,PrPµPiC-PrCtjPsPiPµPSP°P·Cf (P°P°Ph-P°P°), C„CfPSPeC†C-PsPSP°P»CHPSPs PïPsPïBtj™ C¼P·P°PSCf P· PrPëC...P°P»CHPSPëPj P»P°PSC†CHPiPsPj. P°PSP°CfP»C-PrPsPe C†CHPsPiPs C-PSPiC-P±CfPIP°PSPSC¼ C,PµCtjPëC„P»CfPSPsPjC-Pr P·P°PiP°P»PsPj P·PjPµPSC€CfC” PïCtjPsP»C-C„PµCtjP°C†C-CH PeP»C-C,PëPS, C¼PeC- CëPIPëPrPePs PrC-P»C¼C,CHCfC¼ C,P° PïPsC,CtjPµP±CfCHC,CH de novo CfPëPSC,PµP·Cf PïC-CtjPëPjC-PrPëPSCf PrP»C¼ CfPIPsPiPs CtjPsP·PIPëC,PeCf. PÿPsC±PSPëPNë PjPµC...P°PSC-P·Pj, P·P° CtjP°C...CfPSPsPe C¼PePsPiPs C,PµCtjPëC„P»CfPSPsPjC-Pr CtjPµP°P»C·P°CfC” CfPIC-PNë C,PµCtjP°PïPµPIC,PëC±PSPëPNë PµC„PµPeC, C%°PsPrPs CtjPsP·CfC-C¼PSPsPiPs CfPeP»PµCtjPsP·Cf (P Pÿ), PSPµ PrPs PeC-PSC†C¼ P·CtjPsP·CfPjC-P»PëPNë, P°P»Pµ PIC-PS PsPiPsCfPµCtjPµPrPePsPICfC”C,CHCfC¼ P·PjPµPSC€PµPSPSC¼Pj PeC-P»CHPePsCfC,C- P»C-PjC„PsC†PëC,C-PI.

PαP°CtjPjP°PePsPrPëPSP°PjC-C±PSC- PµC„PµPeC,Pë.

P†PjCzPSPSP° CfPëCfC,PµPjP°. P°PïP»PëPI PSP° PeC-P»CHPeC-CfC,CH C-PjCfPSPsPePsPjPïPµC,PµPSC,PSPëC... PeP»C-C,PëPS PI PeCtjPsPIC-: Cf PïP»P°C†PµP±Ps- PePsPSC,CtjPsP»CHPsPIP°PSPëC... PrPsCfP»C-PrP¶PµPSPSC¼C... C,PµCtjPëC„P»CfPSPsPjC-Pr Cf PrPsP·C- 14 PjPi PsPrPëPS CtjP°P· PSP° PrPsP±Cf PIPëPeP»PëPeP°PI P»PµPiPePµ P·PjPµPSC€PµPSPSC¼ PeC-P»CHPePsCfC,C- P»C-PjC„PsC†PëC,C-PI Btj° Cf CfPµCtjPµPrPSCHPsPjCf PjPµPSC€ PSC-P¶ PSP° 0,3 × 10⁹/P» Btj° PïCtjPsC,C¼PiPsPj PïPµCtjCëPëC...B 3 PjC-CfC¼C†C-PI P»C-PeCfPIP°PSPSC¼, PïC-CfP»C¼ C±PsPiPs C†PµPNë

PJ PrPsCfP»C-PrP¶PµPSPSC- TEMSO P·P°PiP°P»PsPj 1088 PiP°C†C-C”PSC,C-PI P· P P PŸ
CĤP°PSPrPsPjC-P·CfPIP°P»Pë PrP»CĬ PiCĤPëPNëPsPjCf P°P±Ps C,PµCĤPëC,,P»CfPSPsPjC-PrCf
Cf PrPsP·P°C... 7 PjPi (n = 366) C†Pë 14 PjPi (n = 359), P°P±Ps PiP»P°C†PµP±Ps (n = 363)
PiCĤPSc,CĬPiPsPj PiPµCĤC-PsPrCf C,CĤPëPIP°P»C-CfC,CĤ 108 C,PëP¶PSC-PI. PjCfC-
PiP°C†C-C”PSC,Pë P±CfP»Pë P· PiC-PrC,PIPµCĤPrP¶PµPSPëPj PrC-P°PiPSPsP·PsPj P PŸ (PSP°
PsCfPSPsPIC- PeCĤPëC,PµCĤC-C—PI PĤP°PeP”PsPSP°P»CHPrP°, 2001 CĤ.) P·
CĤPµC†PëPrPëPICfCĤC†PëPj PeP»C-PSC-C†PSPëPj PiPµCĤPµP±C-PiPsPj, P·
PiCĤPsPiCĤPµCfCfPIP°PSPSCĬPj P°P±Ps P±PµP· PSCHbPsPiPs, C,P° PjP°P»Pë
PiCĤPëPSP°PNëPjPSC- 1 CĤPµC†PëPrPëPI PiCĤPSc,CĬPiPsPj CĤPsPeCf, C°Ps
PiPµCĤPµPrCfPIP°PI PrPsCfP»C-PrP¶PµPSPSCĤ, P°P±Ps PiCĤPëPSP°PNëPjPSC- 2
CĤPµC†PëPrPëPIPë PiCĤPSc,CĬPiPsPj 2 CĤPsPeC-PI, C°Ps PiPµCĤPµPrCfPIP°P»Pë
PrPsCfP»C-PrP¶PµPSPSCĤ. PkP° PjPsPjPµPSC, PIPEP»CĤC†PµPSPSCĬ Cf
PrPsCfP»C-PrP¶PµPSPSCĬ PiP°C†C-C”PSC,Pë PsC,CĤPëPiP°P»Pë ≤ 5,5 P±P°P»P° P·P°

P PsP·C€P€CĤPμPSPsCĤ C€PeP°P»PsCĤ PsC†C-PSPePë PIPëCĤP°P¶PμPSPsC†C,C-
C-PSPIP°P»C-PrPëP·P°C†C-C— (Expanded Disability Status Scale, EDSS). PŸPμCĤPμPrPSC-PNë
PIC-Pe C†C†P°C†PSPëPeC-PI PrPsC†P»C-PrP¶PμPSPSCĬ C†C,P°PSPsPIPëPI 37,9 CĤPsPeC†. PJ
P±C-P»CHC€PsC†C,C- PïP°C†C-C”PSC,C-PI P±C†PI PrC-P°PiPSPsC†C,PsPIP°PSPëPNë
CĤPsP·C†C-CĬPSPëPNë C†PeP»PμCĤPsP· CĤPμC†PëPrPëPIC†CĤC†Ps-CĤPμPjC-C,C†CĤC†PsPiPs
PïPμCĤPμP±C-PiC† (91,5 %), P°P»Pμ C† PSpμPIPμP»PëPePsC— PiC-PrPiCĤC†PiPë
PïP°C†C-C”PSC,C-PI P±C†PI PIC,PsCĤPëPSPSPs-PiCĤPsPiCĤPμC†C†CĤC†PëPNë (4,7 %) P°P±Ps
PiCĤPsPiCĤPμC†C†CĤC†PëPNë CĤPμC†PëPrPëPIC†CĤC†PëPNë CĤPsP·C†C-CĬPSPëPNë
C†PeP»PμCĤPsP· (3,9 %). PŸPμCĤPμPrPSCĬ PeC-P»CHPeC-C†C,CH CĤPμC†PëPrPëPIC-PI
PiCĤPsC,CĬPiPsPj CĤPsPeC† PrPs PIPeP»CĤC†PμPSPSCĬ PïP°C†C-C”PSC,C-PI C†
PrPsC†P»C-PrP¶PμPSPSCĬ C†C,P°PSPsPIPëP»P° 1,4, PiCĤPë C†CHPsPjC† C† 36,2 %
PïP°C†C-C”PSC,C-PI PSP° PiPsC†P°C,PePsPIPsPjC† CĤC-PIPSC- PIPëCĬPIIP»CĬP»PëC†CĬ
PePsPSC,CĤP°C†C,PsPIP°PSC- PiP°PrPsP»C-PSC-C”Pj PIPsPiPSPëC‰P° C†CĤP°P¶PμPSPSCĬ.
PĤPμPrC-P°PSP° PeC-P»CHPePsC†C,C- P±P°P»C-PI P·P° C€PeP°P»PsCĤ EDSS PSP°
PiPsC†P°C,PePsPIPsPjC† CĤC-PIPSC- C†C,P°PSPsPIPëP»P° 2,50, PiCĤPë C†CHPsPjC† C† 249
PïP°C†C-C”PSC,C-PI (22,9 %) PeC-P»CHPeC-C†C,CH P±P°P»C-PI P·P° C€PeP°P»PsCĤ EDSS
PSP° PiPsC†P°C,PePsPIPsPjC† CĤC-PIPSC- C†C,P°PSPsPIPëP»P° > 3,5. PŸPμCĤPμPrPSCĬ
C,CĤPëPIP°P»C-C†C,CH P·P°C...PIPsCĤCĤPIP°PSPSCĬ PIC-Pr C†P°C†C† PïPsCĬPIPë
PiPμCĤC€PëC... C†PëPjPiC,PsPjC-PI C†C,P°PSPsPIPëP»P° 8,7 CĤPsPeC†. P°C-P»CHC€C-C†C,CH
PïP°C†C-C”PSC,C-PI (73 %) PSPμ PsC,CĤPëPjC†PIP°P»Pë PiCĤPμPïP°CĤP°C,C-PI, C‰Ps
P·PjC-PSCHCĤC,CH PiPμCĤPμP±C-Pi CĤPsP·C†C-CĬPSPsPiPs C†PeP»PμCĤPsP·C†,
PiCĤPsC,CĬPiPsPj 2 CĤPsPeC-PI PrPs PIPeP»CĤC†PμPSPSCĬ C† PrPsC†P»C-PrP¶PμPSPSCĬ.
P PμP·C†P»CHC,P°C,Pë PrPsC†P»C-PrP¶PμPSPSCĬ PiPsPeP°P·P°PSPs PI C,P°P±P»PëC†C- 1.

P PμP·C†P»CHC,P°C,Pë C,CĤPëPIP°P»PsPiPs C†PiPsC†C,PμCĤPμP¶PμPSPSCĬ,
PsC,CĤPëPjP°PSC- C† C...PsPrC- PiPsPrPsPIP¶PμPSPsPiPs PIPëPIC†PμPSPSCĬ
PrPsPIPiPsC†C,CĤPsPePsPIPsC— PsC†C-PSPePë P±PμP·PiPμPePë PI C†C†P°C†PSPëPeC-PI
PrPsC†P»C-PrP¶PμPSPSCĬ TEMSO (PjPμPrC-P°PSP° P·P°PiP°P»CHPSPsC—
C,CĤPëPIP°P»PsC†C,C- P»C-PeC†PIP°PSPSCĬ C†C,P°PSPsPIPëP»P° PiCĤPëP±P»PëP·PSPs 5
CĤPsPeC-PI, P° PjP°PeC†PëPjP°P»CHPSP° C,CĤPëPIP°P»C-C†C,CH P»C-PeC†PIP°PSPSCĬ
C†C,P°PSPsPIPëP»P° PiCĤPëP±P»PëP·PSPs 8,5 CĤPsPeC†), PSPμ PIPëCĬPIIPëP»Pë P¶PsPrPSPëC...
PSPsPIPëC... P°P±Ps PSPμPsC†C-PeC†PIP°PSPëC... PrP°PSPëC... C‰PsPrPs P±PμP·PiPμPePë.

PJ PrPsC†P»C-PrP¶PμPSPSC- TOWER P·P°PiP°P»PsPj 1169 PïP°C†C-C”PSC,C-PI P· P P PŸ
CĤP°PSPPrPsPjC-P·C†PIP°P»Pë PrP»CĬ PiCĤPëPNëPsPjC† P°P±Ps C,PμCĤPëC„P»C†PSPsPjC-PrC†
C† PrPsP·P°C... 7 PjPi (n = 408) C†Pë 14 PjPi (n = 372), P°P±Ps PïP»P°C†PμP±Ps (n = 389)
PiCĤPsC,CĬPiPsPj PiPμCĤC-PsPrC-PI CĤC-P·PSPsC— C,CĤPëPIP°P»PsC†C,C-, CĬPeC-
P·P°PeC-PSC†PëP»PëC†CĬ C†PμCĤPμP· 48 C,PëP¶PSC-PI PiC-C†P»CĬ
CĤP°PSPPrPsPjC-P·P°C†C-C— PsC†C,P°PSPSCHPsPiPs PïP°C†C-C”PSC,P°. PJC†C-
PïP°C†C-C”PSC,Pë P±C†P»Pë P· PiC-PrC,PIPμCĤPrP¶PμPSPëPj PrC-P°PiPSPsP·PsPj P PŸ (PSP°
PsC†PSPsPIC- PeCĤPëC,PμCĤC-C—PI PĤP°PeP”PsPSP°P»CHPrP°, 2005 CĤ.) P·
CĤPμC†PëPrPëPIC†CĤC†PëPj PeP»C-PSC-C†PSPëPj PiPμCĤPμP±C-PiPsPj, P·
PiCĤPsPiCĤPμC†C†PIP°PSPSCĬPj P°P±Ps P±PμP· PSCHPsPiPs, C,P° PjP°P»Pë
PiCĤPëPSP°PNëPjPSC- 1B CĤPμC†PëPrPëPI PiCĤPsC,CĬPiPsPj CĤPsPeC†, C‰Ps
PiPμCĤPμPrC†PIP°PI PrPsC†P»C-PrP¶PμPSPSCĤ, P°P±Ps PiCĤPëPSP°PNëPjPSC- 2
CĤPμC†PëPrPëPIPë PiCĤPsC,CĬPiPsPjB 2 CĤPsPeC-PI, C‰Ps PiPμCĤPμPrC†PIP°P»Pë
PrPsC†P»C-PrP¶PμPSPSCĤ. PkP° PjPsPjPμPSC, PIPeP»CĤC†PμPSPSCĬ C†
PrPsC†P»C-PrP¶PμPSPSCĬ PïP°C†C-C”PSC,Pë PjP°P»PëB ≤ 5,5 P±P°P»P° P·P°
P PsP·C€P€CĤPμPSPsCĤ C€PeP°P»PsCĤ PsC†C-PSPePë C†C,C†PiPμPSCĬ
C-PSPIP°P»C-PrPëP·P°C†C-C— (Expanded Disability Status Scale, EDSS).

PŸPµCŸPµPrPSC-PN PIC-Pe CŸC†P°CŸPSPePeC-PI PrPsCŸP»C-PrP¶PµPSPSCŸ CŸC,P°PSPsPIPePI
 37,9 CŸPsPePe. PJ P±C-P»CHC€PsCŸC,C- PiP°C†C-C" PSC,C-PI P±CŸPI CŸPsP·CŸC-CŸPSPePN
 CŸPeP»PµCŸPsP· CŸPµC†PePrPePICŸCŸC†Ps-CŸPµPjC-C,CŸCŸC†PsPiPs PiPµCŸPµP±C-PiCŸ (97,5
 %), P°P»Pµ CŸ PSPµPIPµP»PePePsC— PiC-PrPiCŸCŸPiPe PiP°C†C-C" PSC,C-PI P±CŸPI
 PIC,PsCŸPePSPSPs-PiCŸPsPiCŸPµCŸCŸC†PePN (0,8 %) P°P±Ps PiCŸPsPiCŸPµCŸCŸC†PePN
 CŸPµC†PePrPePICŸCŸC†PePN CŸPsP·CŸC-CŸPSPePN
 CŸPeP»PµCŸPsP·B B B B B B B B B B B B (1,7 %). PŸPµCŸPµPrPSCŸ PeC-P»CHPeC-CŸC,CH
 CŸPµC†PePrPePIC-PI PiCŸPsC,CŸPiPsPj CŸPsPeCŸ PrPs PIPeP»CŸC†PµPSPSCŸ
 PiP°C†C-C" PSC,C-PI CŸ PrPsCŸP»C-PrP¶PµPSPSCŸ CŸC,P°PSPsPIPeP»P° 1,4. P©PsPrPs
 PSP°CŸPIPSPsCŸC,C- PePsPSC,CŸP°CŸC,PsPIP°PSPeC... PiP°PrPsP»C-PSC-C" Pj PIPsPiPSPeC%
 CŸCŸP°P¶PµPSPSCŸ PSP° PiPsC†P°C,PePsPIPsPjCŸ CŸC-PIPSC- PrP°PSC- PIC-PrCŸCŸC,PSC-.
 PµPµPrC-P°PSP° PeC-P»CHPePsCŸC,C- P±P°P»C-PI P·P° C€PeP°P»PsCŸ EDSS PSP°
 PiPsC†P°C,PePsPIPsPjCŸ CŸC-PIPSC- CŸC,P°PSPsPIPeP»P° 2,50, PiCŸPe C†CHPsPjCŸ CŸ 298
 PiP°C†C-C" PSC,C-PI (25,5 %) PeC-P»CHPeC-CŸC,CH P±P°P»C-PI P·P° C€PeP°P»PsCŸ EDSS
 PSP° PiPsC†P°C,PePsPIPsPjCŸ CŸC-PIPSC- CŸC,P°PSPsPIPeP»P° > 3,5. PŸPµCŸPµPrPSCŸ
 C,CŸPePIP°P»C-CŸC,CH P·P°C...PIPsCŸCŸPIP°PSPSCŸ PIC-Pr C†P°CŸCŸ PiPsCŸPIPe
 PiPµCŸC€PeC... CŸPePjPiC,PsPjC-PI CŸC,P°PSPsPIPeP»P° 8 CŸPsPeC-PI. P·C-P»CHC€C-CŸC,CH
 PiP°C†C-C" PSC,C-PI (67,2 %) PSPµ PsC,CŸPePjCŸPIP°P»Pe PiCŸPµPiP°CŸP°C,, C%Ps
 P·PjC-PSCŸCŸC,CH PiPµCŸPµP±C-Pi CŸPsP·CŸC-CŸPSPsPiPs CŸPeP»PµCŸPsP·CŸ,
 PiCŸPsC,CŸPiPsPj 2 CŸPsPeC-PI PrPs PIPeP»CŸC†PµPSPSCŸ CŸ PrPsCŸP»C-PrP¶PµPSPSCŸ.
 P PµP·CŸP»CHC,P°C,Pe PrPsCŸP»C-PrP¶PµPSPSCŸ PiPsPeP°P·P°PSC- PI C,P°P±P»PeC†C- 1.

PŸP°P±P»PeC†CŸ 1

PhCŸPSPsPIPSC- CŸPµP·CŸP»CHC,P°C,Pe PrP»CŸ CŸC...PIP°P»PµPSPsC— PrPsP·Pe (PrP°PSC-
 PrP»CŸ PiPsPiCŸP»CŸC†C-C— PiP°C†C-C" PSC,C-PI, C%Ps P±CŸP»Pe
 CŸP°PSPrPsPjC-P·PsPIP°PSC- C,P° PsC,CŸPePjP°P»Pe PiCŸPePSP°PNPjPSC- PsPrPSCŸ PrPsP·CŸ
 PiCŸPµPiP°CŸP°C,CŸ [ITT])

PµPsPeP°P·PSPePe	P"PsCŸP»C-PrP¶PµPSPSCŸ TEMSO PŸPµCŸPeC„P»CŸPSPsPjC-Pr 14 PjPi	PµP»P°C†PµP±Ps	P"PsCŸP»C-PrP¶PµPSPSCŸ TOWER PŸPµCŸPeC„P»CŸPSPsPjC-Pr 14 PjPi	PµP»P°C†PµP±Ps
N	358	363	370	388
PµP»C-PSC-C†PSC- PeC-PSC†PµPIC- C,PsC†PePe				
P C-C†PSP° C†P°CŸC,PsC,P° CŸPµC†PePrPePIC-PI	0,37	0,54	0,32	0,50
P C-P·PSPeC†CŸ CŸPeP·PePeC-PI (P"Pt 95 %)	-0,17 (-0,26, -0,08)***		-0,18 (-0,27, -0,09)****	
PµC-P»CHPeC-CŸC,CH PiP°C†C-C" PSC,C-PI P±PµP· CŸPµC†PePrPePIC-PI PSP° C,PeP¶PrPµPSCŸ 108	56,5%	45,6 %	57,1 %	46,8 %
P·C-PrPSPsC€PµPSPSCŸ CŸPeP·PePeC-PI (P"Pt 95 %)	0,72 (0,58, 0,89)**		0,63 (0,50, 0,79)****	
P C-PIPµPSCŸ CŸC,C-PNPePsPiPs PiCŸPsPiCŸPµCŸCŸPIP°PSPSCŸ C-PSPIP°P»C-PrPeP·P°C†C-C— PiCŸPsC,CŸPiPsPj 3 PjC-CŸCŸC†C-PI PSP° C,PeP¶PrPµPSCŸ 108	20,2 %	27,3 %	15,8 %	19,7 %
P·C-PrPSPsC€PµPSPSCŸ CŸPeP·PePeC-PI (P"Pt 95 %)	0,70 (0,51, 0,97)*		0,68 (0,47, 1,00)*	
P C-PIPµPSCŸ CŸC,C-PNPePsPiPs PiCŸPsPiCŸPµCŸCŸPIP°PSPSCŸ C-PSPIP°P»C-PrPeP·P°C†C-C— PiCŸPsC,CŸPiPsPj 6 PjC-CŸCŸC†C-PI PSP° C,PeP¶PrPµPSCŸ 108	13,8 %	18,7 %	11,7 %	11,9 %
P·C-PrPSPsC€PµPSPSCŸ CŸPeP·PePeC-PI (P"Pt 95 %)	0,75 (0,50, 1,11)		0,84 (0,53, 1,33)	

C†CHbPsPiPs P±C†P»Pë PïPsP±C-C†PSC- C†PµP°PeC†C-C— (21,2 %), PIC-PrC†C†C,PSC-C†C,CH PµC,,PµPeC,PëPIPSsC†C,C- (1,9 %), C-PSC€C- PïC†PëC†PëPSPë (4,8 %) C,P° PSPµP·P°PrPsPIC-P»CHbPSPµ PrPsC,C†PëPjP°PSPSC† PïC†PµC,PµPePsP»C† PrPsC†P»C-PrP¶PµPSPSC† (1 %). P—P° PïPµC†PIPëPSPSPsC† PeC-PSC†PµPIPsC† C,PµC†PëPsC† P·P°C†C,PµC†C†PIP°PSPSC† C,PµC†PëC,,P»C†PSPsPjC-PrC† C† PrPsP·C- 14 PjPi/PrPsP±C† PSPµ PjP°P»Ps PïPµC†PµPIP°Pi PïPµC†PµPr P·P°C†C,PµC†C†PIP°PSPSC†Pj P±PµC,P°-1P°-C-PSC,PµC†C,,PµC†PµPSC†: PIC-PrC†PµC,PµPe PïP°C†C-C”PSC,C-PI P· PSPµC†C†PïC-C€PSC-C†C,C† P»C-PeC†PIP°PSPSC† C†PµC†PµP· 96 C,PëP¶PSC-PI, C†PµP·C†P°C...PsPIP°PSPëPµ PjPµC,PµPrPsPj PµP°PïP»P°PSP°-PµPµPµC”C†P°, C†C,P°PSPsPIPëPI 41,1 % PïPsC†C-PIPS†PSPs P· 44,4 % (C† PïC†C†PïC- PïC†PëPµPsPjC† C,PµC†PëC,,P»C†PSPsPjC-PrC† C† PrPsP·C- 14 PjPi PïPsC†C-PIPS†PSPs P· PïC†C†PïPsC† PïC†PëPµPsPjC† P±PµC,P°-1P°-C-PSC,PµC†C,,PµC†PµPSC†,B B p = 0,595).

PµPµPrC-P°C,C†PëC†PSP° PïPsPïC†P»C†C†C-C†

P”C-C,Pë (PIC-PePsPj PIC-Pr 10 PrPs 17 C†PµPeC-PI)

P”PsC†P»C-PrP¶PµPSPSC† EFC11759/TERIKIDS P±C†P»Ps PjC-P¶PSP°C†PµPrPSPëPj PïPsPrPIC-PµPSPs C†P»C-PïPëPj PïP»P°C†PµP±Ps-PePsPSC,C†PµP»CHbPsPIP°PSPëPj PrPsC†P»C-PrP¶PµPSPSC†Pj P·P° C†C†P°C†C,C† PïP°C†C-C”PSC,C-PI PIC-PePsPj PIC-Pr 10 PrPs 17 C†PµPeC-PI P· C†PµC†PëPrPëPIC†C†PµPjC-C,C†C†C†PëPj P PŸ, PI C†PePsPjC† PsC†C-PSC†PIP°P»PsC†C† P·P°C†C,PµC†C†PIP°PSPSC† C,PµC†PëC,,P»C†PSPsPjC-PrC† PsPrPëPS C†P°P· PSP° PrPsP±C† (PrPsP·Pë C†PePsC†PëPiPsPIP°PSPs PrP»C† PrPsC†C†PiPSPµPSPSC† PIPïP»PëPIC†, PµPePIC-PIP°P»PµPSC,PSPsPiPs C,P°PePsPjC† PïC†Pë PrPsP·C- 14 PjPi C† PrPsC†PµC†P»PëC...) PïC†PµC,C†PiPsPj 96 C,PëP¶PSC-PI P· PïPsPrP°P»CHbC€PëPj PIC-PrPeC†PëC,PëPj C†PµP·C€PëC†PµPSPëPj PrPsC†P»C-PrP¶PµPSPSC†Pj. Pj PIC†C-C... PïP°C†C-C”PSC,C-PI C†C,P°PIC†C† C°%PsPSP°PµPjPµPSC€Pµ 1 C†PµC†PëPrPëPI PïC†PµC,C†PiPsPj 1 C†PµPeC† P°P±Ps C°%PsPSP°PµPjPµPSC€Pµ 2 C†PµC†PëPrPëPIPë P·P° 2 C†PµPePë PrPs PrPsC†P»C-PrP¶PµPSPSC†. PµPµPIC†PµP»PsPiC-C†PSC- PsP±C†C,PµP¶PµPSPSC† PïC†PµPµPrPëP»PëC†C† PïC†Pë C†PeC†PëPSC-PSPiC† C,P° PePsP¶PSC- 24 C,PëP¶PSC- PrPs P·P°PIPµC†C€PµPSPSC† PrPsC†P»C-PrP¶PµPSPSC†, P° C,P°PePsP¶ PïC-Pr C†P°C† PïPsP·P°PïP»P°PSPsPIPëC... PIC-P·PëC,C-PI C† C†P°P·C- PïC-PrPsP·C†Pë PSP° C†PµC†PëPrPëPI. PµP°C†C-C”PSC,Pë P· PeP»C-PSC-C†PSPëPj C†PµC†PëPrPëPIPsPj P°P±Ps PIPëC†PsPePsC† P°PeC,PëPIPS-C†C,C† P·P° PrP°PSPëPjPë PµP PŸ PïC†PëPSP°PµPjPSC- 5 PSPsPIPëC... P°P±Ps PïC†PµPµC†C†C†PëC... PŸ2-P·PIP°P¶PµPSPëC... PIPsPiPSPëC°% C†C†P°P¶PµPSPSC† PSP° 2 PïPsC†P»C-PrPsPIPSPëC... C†PeP°PSC†PIP°PSPSC†C... P±C†P»Pë PïPµC†PµPIPµPrPµPSC- C† PIC-PrPeC†PëC,Pµ C†PµP·C€PëC†PµPSPµ PrPsC†P»C-PrP¶PµPSPSC† PrPs 96 C,PëP¶PSC† PrP»C† P·P°P±PµP·PïPµC†PµPSPSC† P°PeC,PëPIPSsPiPs P»C-PeC†PIP°PSPSC†. PµPµC†PIPëPSPSPsC† PeC-PSC†PµPIPsC† C,PµC†PëPsC† P±C†PI C†P°C† PrPs PïPµC†C€PsPiPs PeP»C-PSC-C†PSPsPiPs C†PµC†PëPrPëPIC† PïC-C†P»C† C†P°PSPrPsPjC-P·P°C†C-C—. PŸP°C† PrPs PïPµC†C€PsPiPs PïC-PrC,PIPµC†PrP¶PµPSPSC† PeP»C-PSC-C†PSPsPiPs C†PµC†PëPrPëPIC† P°P±Ps PIPëC†PsPePsC— P°PeC,PëPIPSsC†C,C- P·P° PrP°PSPëPjPë PµP PŸ, P·P°P»PµP¶PSPs PIC-Pr C,PµPiPs, C°%Ps C†C,P°P»PsC†C† C†P°PSC-C€Pµ, P±C†PI PïPsPiPµC†PµPrPSC†Pµ PIPëP·PSP°C†PµPSPëPµ C†Pe P°PSP°P»C-P· C†C†C,P»PëPIPsC†C,C-, PsC†PeC-P»CHbPePë PIC-PS PIPeP»C†C†P°C” C†Pe PeP»C-PSC-C†PSC-, C,P°Pe C- PµP PŸ- C†PjPsPIPë, C†PeC- PIC-PrPïPsPIC-PrP°C†C,CH C†PjPsPIP°Pj PïPµC†PµC...PsPrC† C† PIC-PrPeC†PëC,Pµ C†PµP·C€PëC†PµPSPµ PrPsC†P»C-PrP¶PµPSPSC†.

P”P»C† PïC†PëPµPsPjC† C,PµC†PëC,,P»C†PSPsPjC-PrC† (n = 109) P°P±Ps PïP»P°C†PµP±Ps (n = 57) P·P°PïP°P»PsPj P±C†P»Ps C†P°PSPrPsPjC-P·PsPIP°PSPs 166 PïP°C†C-C”PSC,C-PI C† C†PïC-PIPIC-PrPSPsC€PµPSPSC- 2 : 1. PµP° PjPsPjPµPSC, PIPeP»C†C†PµPSPSC† C†

[illegible]

[illegible]

P„PICḡPsP̄PμPNḡCÍCH̄PePμ P°PiPμPSC,CÍC,PIPs P·P»C-PeP°CḡCÍCH̄PePēC... P·P°CÍPsP±C-PI
P·PIC-P»CH̄PSPēP»Ps PIPēCḡPsP±PSPēPeP° PIC-Pr P·PsP±PsPIBḡ™ C̄IP·P°PSPSC̄I
PSP°PrP°C,Pē CḡPμP·CfP»CH̄C,P°C,Pē PrPsCÍP»C-PrP̄PμPSCḡ P·P°CÍC,PsCÍCfPIP°PSPSC̄I
PīCḡPμP̄P°CḡP°C,Cf Ph̄P±P°PrP̄C-Ps^{B®} PrC-C,C̄IPj PIC-PePsPj PIC-Pr PSP°CḡPsPrP̄PμPSPSC̄I
PrPs PjPμPSCēPμ 10 CḡPsPeC-PI PrP»C̄I P»C-PeCfPIP°PSPSC̄I CḡPsP·CÍC-C̄IPSPsPiPs
CÍPeP»PμCḡPsP·Cf (C-PSC„PsCḡPjP°C†C-C̄I C%PsPrPs P·P°CÍC,PsCÍCfPIP°PSPSC̄I
PīCḡPμP̄P°CḡP°C,Cf PrC-C,C̄IPj PSP°PIPμPrPμPSP° PI CḡPsP·PrC-P»C- B«P̄P̄PiPsCÍC-P±
P·P°CÍC,PsCÍCfPIP°PSPSC̄I C,P° PrPsP·PēB»).

PαP°CḡPjP°PePsPeC-PSPμC,PēPeP°.

Ph̄P±CÍPsCḡP±C†C-C̄I.

PḡPμPrC-P°PSP° C†P°CÍCf PrPs PrPsCÍC̄IPiPSPμPSPSC̄I PjP°PeCÍPēPjP°P»CH̄PSPsC—
PePsPSC†PμPSC,CḡP°C†C-C— Cf P̄P»P·PjC- PeCḡPsPIC- PīC-CÍP»C̄I
P±P°PiP°C,PsPeCḡP°C,PSPsPiPs P̄PμCḡPsCḡP°P»CH̄PSPsPiPs PīCḡPēPNḡPsPjCf
C,PμCḡPēC„P»CfPSPsPjC-PrCf CÍC,P°PSPsPIPēC,CH̄ PIC-Pr 1 PrPs 4 PiPsPrPēPS PīC-CÍP»C̄I
P·P°CÍC,PsCÍCfPIP°PSPSC̄I PrPsP·Pē; P±C-PsPrPsCÍC,CfPiPSC-CÍC,CH̄ PīCḡPμP̄P°CḡP°C,Cf
C” PIPēCÍPsPePsCḡ (P±P»PēP·CH̄PePs 100 %).

P†P̄P° PSPμ C†PēPSPēC,CH̄ PeP»C-PSC-C†PSPs P·PSP°C†CfC%PsPiPs PIP̄P»PēPICf PSP°
C„P°CḡPjP°PePsPeC-PSPμC,PēPeCf C,PμCḡPēC„P»CfPSPsPjC-PrCf.

PḡP° PsCÍPSPsPIC- CÍPμCḡPμPrPSC-C... PīCḡPsPiPSPsP·PsPIP°PSPēC...
C„P°CḡPjP°PePsPeC-PSPμC,PēC†PSPēC... P̄PsPeP°P·PSPēPeC-PI, PsP±C†PēCÍP»PμPSPēC... P·P°
CḡPμP·CfP»CH̄C,P°C,P°PjPē P̄PsPīCfP»C̄IC†C-PNḡPSPsPiPs
C„P°CḡPjP°PePsPeC-PSPμC,PēC†PSPsPiPs P°PSP°P»C-P·Cf (PμPsP̄PαPḡ) P·
PIPēPePsCḡPēCÍC,P°PSPSC̄IPj PrP°PSPēC... C%PsPrPs P·PrPsCḡPsPIPēC...
PrPsP±CḡPsPiPsP»CH̄C†C-PI C,P° P̄P°C†C-C”PSC,C-PI P· P P̄, CḡC-PIPSPsPIP°P̄PSP°
PePsPSC†PμPSC,CḡP°C†C-C̄I PīCḡPμP̄P°CḡP°C,Cf PrPsCÍC̄IPiP°C”C,CH̄CÍC̄I
P̄PsPIC-P»CH̄PSPs (PīCḡPēP±P»PēP·PSPs PīCḡPsC,C̄IPiPsPj 100 PrPSC-PI, 3,5 PjC-CÍC̄IC†C̄I,
PrPs PrPsCÍC̄IPiPSPμPSPSC̄I 95 % CḡC-PIPSPsPIP°P̄PSPsC— PePsPSC†PμPSC,CḡP°C†C-C—),
P° CḡPsP·CḡP°C...PsPIP°PSPμ PIC-PrPSPsCēPμPSPSC̄I PeCfPjCfP»C̄IC†C-C— AUC
CÍC,P°PSPsPIPēC,CH̄ PīCḡPēP±P»PēP·PSPs 34.

P PsP·P̄PsPrC-P».

P̄PμCḡPēC„P»CfPSPsPjC-Pr P·PSP°C†PSPsCḡ PjC-CḡPsCḡ P·PIBḡ™ C̄IP·CfC”C,CH̄CÍC̄I P·
P±C-P»PeP°PjPē P̄P»P°P·PjPē PeCḡPsPIC- (> 99 %), C-PjPsPIC-CḡPSPs, P·
P°P»CH̄P±CfPjC-PSPsPj, C- CḡPsP·P̄PsPrC-P»C̄IC”C,CH̄CÍC̄I P̄PμCḡPμPIP°P̄PSPs Cf
P̄P»P°P·PjC-. Ph̄P±Bḡ™ C”Pj CḡPsP·P̄PsPrC-P»Cf PīC-CÍP»C̄I PsPrPSPsPeCḡP°C,PSPsPiPs
PIPSCfC,CḡC-CēPSCḡPsPIPμPSPSPsPiPs PIPiPμPrPμPSPSC̄I PīCḡPμP̄P°CḡP°C,Cf
CÍC,P°PSPsPIPēC,CH̄ 11 P». PμCḡPsC,Pμ C†PμPNḡ CḡC-PIPμPSCḡ,
PSP°PNḡC-PjPsPIC-CḡPSC-CēPμ, C” P·P°PSPēP̄PμPSPēPj, PsCÍPeC-P»CH̄PePē Cf C%CfCḡC-PI
CÍPiPsCÍC,PμCḡC-PiP°PICÍC̄I P·PSP°C†PSPēPNḡ CḡPsP·P̄PsPrC-P» PI PsCḡPiP°PSPē.

P’C-PsC,CḡP°PSCÍC„PsCḡPjP°C†C-C̄I

P̄PμCḡPēC„P»CfPSPsPjC-Pr P̄PsPjC-CḡPSPs PjPμC,P°P±PsP»C-P·CfC”C,CH̄CÍC̄I C- C”
C”PrPēPSPsCḡ CÍPiPsP»CfPePsCḡ, C%Ps PIPēC̄IPiP»C̄IC”C,CH̄CÍC̄I Cf P̄P»P°P·PjC-
PeCḡPsPIC-. Ph̄CÍPSPsPIPSPēPj CēP»C̄IC...PsPj P±C-PsC,CḡP°PSCÍC„PsCḡPjP°C†C-C—
C,PμCḡPēC„P»CfPSPsPjC-PrCf C” PīC-PrCḡPsP»C-P.; PjPμPSCē P·PSP°C†CfC%PēPj

СѢР»СІІС...PsPj вѢ“ PsPePѢСІР»РμPSPSCІІ. Р”СѢСІРiPsСѢСІІРPSC- PjPμC,Р°Р±PsP»C-С±PSC-
СѢР»СІІС...PѢ PIPeP»СѢС±Р°СѢС,СѢ PsPePѢСІР»РμPSPSCІІ, N-Р°С†PμC,PѢP»СѢPIР°PSPSCІІ
C,Р° СІСІР»СѢС,,Р°C,PSPμ PePsPSвѢ™ СѢPiСІРIP°PSPSCІІ.

Р•Р»C-PjC-PSP°С†C-СІІ.

РѢРμСѢPѢC,,P»СІРPSPsPjC-Pr РμPeСІРPeСѢPμC,СІС”C,СѢСІСІІ СІ СѢР»СІРPSPePsPIPs-
PePѢСѢPePsPIPѢP№ C,СѢР°PeC, PiPμСѢPμPIР°P¶PSPs P· P¶PsPIC±СѢ СІ PIPѢPiP»СІІРC-
PSPμP·PjC-PSPμPSPsC— PrC-СѢС±PsC— СѢPμC±PsPIPѢPSPѢ, PSP°P№P±C-P»СѢСѢ
C-PjPsPIC-СѢPSPs, СѢР»СІІС...PsPj PiСѢСІІPjPsC— СІРμPeСѢPμC†C-C—.
РѢРμСѢPѢC,,P»СІРPSPsPjC-Pr C” СІСІР±СІС,СѢР°C,PsPj PμC,,P»СѢPeСІРPSPsPiPs
C,СѢР°PSCІРiPsСѢС,РμСѢР° P’CRP, C%oPs PjPsP¶Pμ P±СѢР°C,PѢ СІС±Р°СІС,СѢ СІ
PiСѢСІІPjC-P№ СІРμPeСѢPμC†C-C—. РμСѢPsC,СІPiPsPj 21-PiPs PrPSCІІ 60,1 %
PIPIРμPrPμPSPsC— PrPsP·PѢ РμPeСІРPeСѢPμC,СІС”C,СѢСІСІІ P· PeP°P»PsPj (37,5 %) C,Р°
СІРμC±PμСѢ (22,6 %). РμC-СІР»СІІ PiСѢPsC†PμPrСІСѢPѢ СѢPIPѢPrPePsPiPs
PIPѢPIРμPrPμPSPSCІІ P· PIPѢPePsСѢPѢСІС,Р°PSPSCІІPj C...PsP»PμСІС,PѢСѢР°PjC-PSCІ
PIPѢPIPsPrPѢC,СѢСІСІІ C%oPμ 23,1 % (PiPμСѢPμPIР°P¶PSPs P· PeP°P»PsPj). P—Р°
СѢPμP·СІР»СѢС,Р°C,Р°PjPѢ C-PSPPrPѢPIC-PrСІР°P»СѢPSPsPiPs PiСѢPsPiPSPsP·СІ
C,,Р°СѢPjP°PePsPeC-PSPμC,PѢС±PSPѢC... PiPsPeP°P·PSPѢPeC-PI P·
PIPѢPePsСѢPѢСІС,Р°PSPSCІІPj РμPsPiP¶Pљ PjPsPrPμP»C- C,РμСѢPѢC,,P»СІРPSPsPjC-PrСІ, СІ
P·PrPsСѢPsPIPѢC... PrPsP±СѢPsPIPsP»СѢС†C-PI C,Р° PiP°С†C-C”PSC,C-PI P· P PѢ
PjPμPrC-P°PSP° C,РμСѢPjC-PSP°P»СѢPSPsPiPs PiPμСѢC-PsPrСІ
PSP°PiC-PIPIPѢPIРμPrPμPSPSCІІ (t_{1/2z}) СІС,Р°PSPsPIPѢP»P° PiСѢPѢP±P»PѢP·PSPs 19 PrPSC-PI
PiC-СІР»СІІ P±P°PiP°C,PsPeСѢР°C,PSPsPiPs PiСѢPѢP№PsPjСІ PiСѢPμPiP°СѢР°C,СІ СІ PrPsP·C-
14 PjPi. РμC-СІР»СІІ PsPrPSPsPeСѢР°C,PSPsPiPs PIPSCІC,СѢC-СѢPSCѢPsPIPμPSPSPsPiPs
PIPIРμPrPμPSPSCІІ P·P°PiP°P»СѢPSPѢP№ PeP»C-СѢPμPSCІ C,РμСѢPѢC,,P»СІРPSPsPjC-PrСІ
СІС,Р°PSPsPIPѢC,СѢ 30,5 PjP»/PiPsPr.

РμСѢPsC†PμPrСІСѢР° PiСѢPѢСІРPePsСѢPμPSPsPiPs PIPѢPIРμPrPμPSPSCІІ:
C...PsP»PμСІС,PѢСѢР°PjC-PS C,Р° P°PeC,PѢPIPsPIР°PSPμ PICІPiC-P»P»СІІ.

P’PѢPIРμPrPμPSPSCІІ C,РμСѢPѢC,,P»СІРPSPsPjC-PrСІ P· PeСѢPsPIPsPsP±C-PiСІ PjPsP¶PSP°
PiСѢPѢСІРPePsСѢPѢC,PѢ, P·P°СІС,PsСІСІРIP°PICѢPѢ C...PsP»PμСІС,PѢСѢР°PjC-PS P°P±Ps
P°PeC,PѢPIPsPIР°PSPμ PICІPiC-P»P»СІІ, СІPeC-, СІPe PIPIР°P¶P°C”C,СѢСІСІІ,
P±P»PsPeСІСѢС,СѢ PiСѢPsC†PμСІРѢ СѢPμP°P±СІРPsСѢP±С†C-C— PI PePѢСѢPμC±PSPѢPeСІ.
PљPsPSC†PμPSC,СѢР°С†C-C— C,РμСѢPѢC,,P»СІРPSPsPjC-PrСІ, СІPeC-
PIPѢP·PSP°С±Р°P»PѢСІСІІ PiC-Pr C±Р°СІ 11-PrPμPSPSPsC— PiСѢPsC†PμPrСІСѢPѢ
PiСѢPѢСІРPePsСѢPμPSPSCІІ PIPѢPIРμPrPμPSPSCІІ C,РμСѢPѢC,,P»СІРPSPsPjC-PrСІ P·
PiСѢPѢP№PsPjPsPj 8 Pi C...PsP»PμСІС,PѢСѢР°PjC-PSCІ C,СѢPѢС±C- PSP° PrPsP±СІ, 4 Pi
C...PsP»PμСІС,PѢСѢР°PjC-PSCІ C,СѢPѢС±C- PSP° PrPsP±СІ P°P±Ps 50 Pi
P°PeC,PѢPIPsPIР°PSPsPiPs PICІPiC-P»P»СІІ PrPIC-C±C- PSP° PrPsP±СІ PiC-СІР»СІІ
PiСѢPѢPiPѢPSPμPSPSCІІ P»C-PeСІРIP°PSPSCІІ C,РμСѢPѢC,,P»СІРPSPsPjC-PrPsPj,
PiСѢPsPrPμPjPsPSCІC,СѢСІРIP°P»PѢ PμC,,PμPeC,PѢIPSC-СІС,СѢ С†PѢC... СѢPμP¶PѢPjC-PI
PrP»СІІ PiСѢPѢСІРPePsСѢPμPSPSCІІ PIPѢPIРμPrPμPSPSCІІ C,РμСѢPѢC,,P»СІРPSPsPjC-PrСІ,
C%oPs P·P°P±PμP·PiPμC±СІРIP°P»PѢ P·PjPμPSCѢPμPSPSCІІ PePsPSC†PμPSC,СѢР°С†C-C—
C,РμСѢPѢC,,P»СІРPSPsPjC-PrСІ СІ PiP»P°P·PjC- PeСѢPsPIC- P±C-P»СѢСѢ PSC-P¶ PSP° 98 %;
PiСѢPѢ С†СѢPsPjСІ C...PsP»PμСІС,PѢСѢР°PjC-PS PrC-СІPI СѢPIPѢPrСѢPμ, PSC-P¶
P°PeC,PѢPIPsPIР°PSPμ PICІPiC-P»P»СІІ. РμC-СІР»СІІ PIC-PrPjC-PSPѢ
C,РμСѢPѢC,,P»СІРPSPsPjC-PrСІ C,Р° PiСѢPѢP·PSP°С±PμPSPSCІІ C...PsP»PμСІС,PѢСѢР°PjC-PSCІ
СІ PrPsP·C- 8 Pi C,СѢPѢС±C- PSP° PrPsP±СІ PePsPSC†PμPSC,СѢР°С†C-C—
C,РμСѢPѢC,,P»СІРPSPsPjC-PrСІ PI PiP»P°P·PjC- PeСѢPsPIC- P·PjPμPSCѢPѢP»PѢСІСІІ PSP° 52 %
PSP° PeC-PSPμC†СѢ PrPSCІІ 1, PSP° 91 % PSP° PeC-PSPμC†СѢ PrPSCІІ 3, PSP° 99,2 % PSP°

PeC-PSPμC†CH PrPSCЦ 7 C- PSP°B 99,9 % PSP° PeC-PSPμC†CH PrPSCЦ 11. P'PēP±C-CH PsPrPSC-C"С— P· C†PēC... C,CHCHPsC... PīCHPsC†PμPrCrCH PīCHPēC†PePsCHPμPSPSCЦ PIPēPIPμPrPμPSPSCЦ PīCHPμPīP°CHP°C,Cr PIPēP·PSP°C†P°C"С,CHC†CЦ PīPμCHPμPSPsC†PēPjC-C†C,CH PīP°C†C-C"PS C,P°. PīPeC%Ps C...PsP»PμC†C,PēCHP°PjC-PS Cr PrPsP·C- 8 Pi C,CHPēC†C- PSP° PrPsP±Cr PīPμCHPμPSPsC†PēC,CHC†CЦ PīPsPīP°PSPs, PjPsP¶PSP° PīCHPēP·PSP°C†PēC,Pē C...PsP»PμC†C,PēCHP°PjC-PS Cr PrPsP·C- 4 Pi C,CHPēC†C- PSP° PrPsP±Cr. PīPe P°P»CHC,PμCHPSP°C,PēPIP° PjPsP¶Pμ C,P°PePsP¶ PIPēPePsCHPēC†C,PsPIC†PIP°C,PēC†CH P°PeC,PēPIPsPIP°PSPμ PIC†PiC-P»P»CЦ (C†C- 11 PrPSC-PI PSPμ PsP±PsPIb¶™ CЦP·PePsIPs PjP°CHC,CH P±CrC,Pē PīPsC†P»C-PrPsPIPSPēPjPē, CЦPeC%Ps PSPμPjP°C" PīPsC,CHPμP±Pē Cr CēPIPēPrPePsPjCr P·PSPēP¶PμPSPSC- PePsPSC†PμPSC,CHP°C†C-C— C,PμCHPēC,,P»CrPSPsPjC-PrCr Cr PīP»P°P·PjC- PeCHPsPIC-).

P>C-PSC-PN₂PSC-C†C,CH/PSPPμP»C-PSC-PN₂PSC-C†C,CH.

PŸPēC†C,PμPjPSP° PμPeC†PīPsP·PēC†C-CЦ PīC-C†P»CЦ PīPμCHPsCHP°P»CHPSPsPiPs PīCHPēPN₂PsPjCr C,PμCHPēC,,P»CrPSPsPjC-PrCr PI PrPsP·P°C... PIC-Pr 7 PrPs 14 PjPi P·CHPsC†C,P°C" PīCHPsPīPsCHC†C-PN₂PSPs PrPs PrPsP·Pē.

PIP°CHP°PeC,PμCHPēC†C,PēPePē PI PsPeCHPμPjPēC... PīCHCrPīP°C... PīP°C†C-C"PS C,PI.

PμP°C†C-C"PS C,Pē C†PsP»PsPIC-C†PsC—/P¶C-PSPsC†PsC— C†C,P°C,C-, PīP°C†C-C"PS C,Pē P»C-C,PSCHPsPiPs PIC-PeCž. P—P° CHPμP·C†P»CHC,P°C,P°PjPē PμPsPīPαP¶ P°PSP°P»C-P·Cr Cr P·PrPsCHPsPIPēC... PrPsP±CHPsPIPsP»CHC†C-PI C,P° PīP°C†C-C"PS C,PI P· P PŸ PIPēCЦPIP»PμPSPs PrPμPeC-P»CHPeP° C-PSPPrPēPIC-PrCrP°P»CHPSPēC... C,,P°PeC,PsCHC-PI PIP°CHC-P°P±PμP»CHPSPsC†C,C- C,,P°CHPjP°PePsPeC-PSPμC,PēPePē PīCHPμPīP°CHP°C,Cr: PIC-Pe, PjP°C†P° C,C-P»P°, C†C,P°C,CH, CHP°C†PsPIP° PīCHPēPSP°P»PμP¶PSC-C†C,CH C,P° CHC-PIPS C-P°P»CHP±CrPjC-PS Cr C- P±C-P»C-CHCrP±C-PS Cr. PμCHPsC,Pμ PIPiP»PēPI C†PēC... C,,P°PeC,PsCHC-PI PSP° C,,P°CHPjP°PePsPeC-PSPμC,PēPeCr PīCHPμPīP°CHP°C,Cr P·P°P»PēCēP°C"С,CHC†CЦ PsP±PjPμP¶PμPSPēPj (≤ 31 %).

PμPμC†C-PSPePsPIP° PSPμPrPsC†C,P°C,PS C-C†C,CH. P>PμPiPePμ C,P° PīPsPjC-CHPSPμ PīPsCHCrCēPμPSPSCЦ C,,CrPSPeC†C-C— PīPμC†C-PSPePē PSPμ PIPiP»PēPIP°C" PSP° C,,P°CHPjP°PePsPeC-PSPμC,PēPeCr C,PμCHPēC,,P»CrPSPsPjC-PrCr. PJ P·PIb¶™ CЦP·PeCr P· C†PēPj PePsCHPμPeC†C-CЦ PrPsP·Pē PrP»CЦ PīP°C†C-C"PS C,PI P· P»PμPiPePēPj C,P° PīPsPjC-CHPSPēPj PīPsCHCrCēPμPSPSCЦPj C,,CrPSPeC†C-C— PīPμC†C-PSPePē PSPμ PīPμCHPμPrP±P°C†PμPSP°. PμCHPsC,Pμ C,PμCHPēC,,P»CrPSPsPjC-Pr PīCHPsC,PēPīPsPeP°P·P°PSPēPN₂ PīP°C†C-C"PS C,P°Pj P· C,CЦP¶PePsCH PīPμC†C-PSPePsPIPsCH PrPēC†C,,CrPSPeC†C-C"CH (PrPēPI. CHPsP·PrC-P»Pē B«PŸPīPsC†C-P± P·P°C†C,PsC†CrPIP°PSPSCЦ C,P° PrPsP·PēB» C,P° B«PμCHPsC,PēPīPsPeP°P·P°PSPSCЦB»).

PkPēCHPePsPIP° PSPμPrPsC†C,P°C,PS C-C†C,CH. PŸCЦP¶PePμ PīPsCHCrCēPμPSPSCЦ C,,CrPSPeC†C-C— PSPēCHPsPe PSPμ PIPiP»PēPIP°C" PSP° C,,P°CHPjP°PePsPeC-PSPμC,PēPeCr C,PμCHPēC,,P»CrPSPsPjC-PrCr. PJ P·PIb¶™ CЦP·PeCr P· C†PēPj PePsCHPμPeC†C-CЦ PrPsP·Pē PrP»CЦ PīP°C†C-C"PS C,PI P· P»PμPiPePēPj, PīPsPjC-CHPSPēPj C,P° C,CЦP¶PePēPj PīPsCHCrCēPμPSPSCЦPj C,,CrPSPeC†C-C— PSPēCHPsPe PSPμ PīPμCHPμPrP±P°C†PμPSP°.

P"С-C,Pē

PJ PrC-C,PμPN₂ P· PjP°C†PsCH C,C-P»P° PīPsPSP°Pr 40 PePi, CЦPeC- PsC,CHPēPjCrPIP°P»Pē 14 PjPi PSP° PrPsP±Cr, CHC-PIPSPIPIP°P¶PSP° PePsPSC†PμPSC,CHP°C†C-CЦ P·PSP°C...PsPrPēP»P°C†CЦ Cr PrC-P°PīP°P·PsPSC-, CЦPePēPN₂ C†PīPsC†C,PμCHC-PiP°PIC†CЦ Cr PrPsCHPsC†P»PēC... PīP°C†C-C"PS C,PI, C%Ps PsC,CHPēPjCrPIP°P»Pē C,P°PePēPN₂

СГР°РјРёРНё СГРµР¶РёРј РrPsP·СрРІР°РSPSCІ.

PJ PİP°С†C-С"РSC,С-PI РrРёC,СІC†PsPiPs PIC-РeСр P· PjP°СГРsСГ C,С-Р»Р° ≤ 40 РeРi
Р»C-РeСрРІР°РSPSCІ РrPsP·PsСГ 7 PjPi PsРrРёPS СГРР°Р· РSP° РrPsP±Ср (РSP°
РіC-РrСГC,Р°PIC- PsP±PjРµР¶РµРSPёC... РeР»C-РSC-С†РSPёC... РrР°РSPёC... C,Р°
PjPsРrРµР»СГРІР°РSPSCІ) РіСГРёР·РІРµР»Ps РrPs СГC-РІРSPsРІР°Р¶РSPsС—
РePsРSC†РµРSC,СГРР°С†C-С— Ср РrC-Р°РіР°Р·PsРSC-, C%Ps СГРіPsСГC,РµСГC-РіР°РІCГCІ Ср
РrPsСГPsСГР»РёC... РіР°С†C-С"РSC,С-PI, СІРeC- PsC,СГРёРјСрРІР°Р»Рё 14 PjPi PsРrРёPS
СГРР°Р· РSP° РrPsP±Ср.

РҮРіPsСГC,РµСГРµР¶РµСрРІР°РSC- C-РSPРёPIC-РrСрР°Р»СГРSC- PjC-РSC-PjР°Р»СГРSC-
СГC-РІРSPsРІР°Р¶РSC- РePsРSC†РµРSC,СГРР°С†C-С— Р±СрР»Рё РrСрР¶Рµ
РІР°СГC-Р°Р±РµР»СГРSPёPjРё, СІРe С†Рµ СГРіPsСГC,РµСГC-РіР°Р»Р»PsСГCІ C- Ср
РrPsСГPsСГР»РёC... РіР°С†C-С"РSC,С-PI Р· РҮ.

Р"PsРeР»C-РSC-С†РSC- РrР°РSC- Р· Р±РµР·РіРµРёРµРё.

РҮРsРeСГРёC†РSC-СГC,СГ РіPsPIC,PsСГРSPёC... РrPsP·

РµСГРё Р±Р°РіР°C,PsРeСГР°C,РSPsPjСр РіРµСГPsСГР°Р»СГРSPsPjСр
Р·Р°СГC,PsСГСрРІР°РSPSC- C,РµСГРёC„Р»СрРSPsPjC-РrСр PjРёCР°Рј, C%СрСГР°Рј C,Р°
СГРsР±Р°РeР°Рј РіСГPsC,СІРіPsPj РіРµСГC-PsРrСр C,СГРёРІР°Р»C-СГC,СГ РrPs 3, 6 C,Р° 12
PjC-СГCІC†C-PI PIC-РrРіPsPIC-РrРSPs Р±СрР»Ps Р·РёСГІCРІР°РSPs, C%Ps
PsСГРSPsРІРSPёPjРё PsСГРіР°РSP°РjРё-PjC-СРµРµРSCІРjРё C,PsРeСГРёC†РSPsСГC,С-
РіСГРµРіР°Р°СГР°C,Ср Р±СрР»Рё C†РµСГРІPsРSPёРНё РeC-СГC,РePsРІРёРНё PjPsP·PsРe,
Р»C-РjC„PsC—РrРSC- PsСГРіР°РSPё, РіPsСГРsР¶РSPёРSP° СГPsC,Р°/ СР»СрРSPePsРІPs-
РeРёCРePsРІРёРНё C,СГР°РeC,, СГРµРіСГРsРrСрРeC,РёРІSC- PsСГРіР°РSPё C-
РіC-РrСР»СрРSPePsРІР°Р·Р°Р»Р»PsP° Р·Р»Р»PsP° РҮР°РePsР¶ СГРіPsСГC,РµСГC-РіР°Р»Р»РёC
PsP·РSP°РeРё PsРeРёСГР»СГРІР°Р»СГРSPsРіPs РІР»Р»РёCР РSP° РµСГРёC,СГPsС†РёC,Рё.
РҗРSPµPjC-СІ, Р·PjРµРSCРµРµРSPSCІ РeC-Р»СГРePsСГC,С- C,СГPsPjР±PsС†РёC,С-PI C,Р°
РµC„РµC,Рё Р· Р±PsРeСр C-РjСрРSPSPsC— СГРёСГC,РµРjРё, C%Ps РІРeР»СГC†Р°Р»Р»Рё
Р»РµРНёРePsРіРµРSC-СГ, Р»C-РjC„PsРіРµРSC-СГ C,Р° PIC,PsСГРёРSPSC- C-РSC„РµC†C-С—,
Р±СрР»Рі РіPsРіСГІ СІР·Р°РSC- Р· РІРіР»Р»РёCР РSP° C†РµСГРІPsРSPёРНё
РeC-СГC,РePsРІРёРНё PjPsP·PsРe C,Р°/Р°Р±Ps Р»C-РjC„PsC—РrРSC- PsСГРіР°РSPё.
Р'C-Р»СГCРeC-СГC,СГ РµC„РµC,С-PI C" PIC-РrPsP±СГРР°Р¶РµРSPSCІ PjPsРіPsРіPs
PjРµC...Р°РSC-Р·PjСр РrC-С— СГРіPsР»СрРeРё (C-РSPіC-Р±СрРІР°РSPSCІ РіPsРrC-Р»Ср
РeР»C-С,РёPS). РҮРІР°СГРёРSPё Р±C-Р»СГCР C†СрC,Р»РёC- РrPs
C„Р°СГРjР°РePsР»PsРіC-С†РSPёC... C-, PIC-РrРіPsPIC-РrРSPs, РrPs C,PsРeСГРёC†РSPёC...
РµC„РµC,С-PI C,РµСГРёC„Р»СрРSPsPjC-РrСр, РSC-Р¶ Р»СГРrРёРSP°. Р'РSP°СГР»C-РrPsРe
С†СГРsРіPs Ср C,РІР°СГРёPS C,PsРeСГРёC†РSC- РµC„РµC,Рё РіСГРµРіР°Р°СГР°C,Ср
СГРіPsСГC,РµСГC-РіР°Р»Р»РёCР РіСГРё СГC-РІРSCІC... РµCГРіPsР·РёC†C-С—, C%Ps C"
РµРіC-РІР°Р»Р»РµРSC,РSPёPjРё C,Р°РeРёCр Ср Р»СГРrРёРSPё РіСГРё
Р·Р°СГC,PsСГСрРІР°РSPSC- C,РµСГР°РіРµРіC,РёC†РSPёC... РrPsP· Р°Р±Ps РSPёР¶C†РёРjРё.

Р"РµРSPsC,PsРeСГРёC†РSPёРНё C,Р° РeР°РSC†РµСГРsРіРµРSPSPёРНё РіPsC,РµРSC†C-Р°Р»Рё

РҮРµСГРёC„Р»СрРSPsPjC-Рr РSPµ Р±СрРІ PjСрC,Р°РіРµРSPSPёPj *in vitro* Р°Р±Ps
РeР»Р°СГC,PsРіРµРSPSPёPj *in vivo*. Р»Р»Р°СГC,PsРіРµРSPSC-СГC,СГ, РІРёCІРІР»РµРSP° *in*
vitro, СГPsР·РіР»CІРrР°Р»Р°СГC СІРe РSPµРіСГCІРjРёРНё РµC„РµC,,
РіPsРіСГІ СІР·Р°РSPёРНё Р· РrРёСГР±Р°Р»Р°РSCІPsPj РSCрРeР»РµC,РёРrРSPsРіPs РіСрР»Ср
РІРSP°СГР»C-РrPsРe C„Р°СГРjР°РePsР»PsРіC-С†РSPёC... РµC„РµC,С-PI
C-РSPіC-Р±СрРІР°РSPSCІ Р"Р"Р"Р". Р"СГСрРіPsСГCІРrРSPёРНё PjРµC,Р°Р±PsР»C-С,

[illegible]

PhP·PSP°Pe PeP°PSC†PμCḡPsPiPμPSPSPsCÍC,C- PíCḡPμPíP°CḡP°C,CÍ CÍ C%oCÍCḡC-PI C,P°
PjPëC€PμPN₂ PSPμ PIPëCḡPIP»PμPSPs.

P P_uPiC₇PsPrC₇PeC, P_ePIPS^o C, PsPeC₇P_eC₇PSC-C₇C, CH

[illegible]

P®PIPμPSC-P»CHbPSP° C,PsPeCfPëC±PSC-CfC,CHb

PJ PjPsP»PsPrPëC... C‰CřCĤC-PI, CĹPeC- PsC,CĤPëPjCřPIP°P»Pë C,PµCĤPëC„P»CřPSPsPjC-Pr
PiPµCĤPsCĤP°P»CHPSPs PiCĤPsC,CĹPiPsPj 7 C,PëP¶PSC-PI P· PjPsPjPµPSC,Cř
PIC-PrP»CřC‡PµPSPSCĹ PIC-Pr PiCĤCřPrPSPsPiPs PIPëPiPsPrPsPICřPIP°PSPSCĹ C,P° PrPs
PrPsCřCĹPiPSPµPSPSCĹ P·CĤC-P»PsPiPs PIC-PeCř, PSPµ PIPëCĹPIPëP»Pë
PSPµCřPiCĤPëCĹC,P»PëPIPsPiPs PIPiP»PëPICř PSP° P·CĤPsCřC,P°PSPSCĹ, C„C-P·PëC‡PSPëPNë
P°P±Ps PSPµPICĤPsP»PsPiC-C‡PSPëPNë CĤPsP·PIPëC,PsPe, P·PrP°C,PSC-CřC,CH PrPs
PSP°PIC‡P°PSPSCĹ C,P° PiP°PjBĤ™ CĹC,CH, CĤCřC...PsPICř P°PeC,PëPIPSC-CřC,CH,
CřC,P°C,PµPIPëPNë CĤPsP·PIPëC,PsPe P°P±Ps C„PµCĤC,PëP»CHPSC-CřC,CH.
PķPµP±P°P¶P°PSC- CĹPIPëC‰P° PIPeP»CĤC‡P°P»Pë P°PSPµPjC-CĤ, P·PSPëP¶PµPSPSCĹ
P»C-PjC„,PsC—PrPSPsC— C‡CřC,P»PëPIPsCřC,C-, PrPsP·PsP·P°P»PµP¶PSPµ P·PSPëP¶PµPSPSCĹ
Pÿ-PeP»C-C,PëPSPsP·P°P»PµP¶PSPsC— PIC-PrPiPsPIC-PrC- P°PSC,PëC,C-P» C,P° P·PSP°C‡PSPµ
P·PSPëP¶PµPSPSCĹ PePsPSC‡PµPSC,CĤP°C‡C-PNë IgM C- IgG, C‰Ps P·P°PiP°P»PsPj
P·P±C-PiP°P»PsCřCĹ P·C- CřPiPsCřC,PµCĤPµP¶PµPSPSCĹPjPë Pi
PrPsCřP»C-PrP¶PµPSPSCĹC... C,PsPeCřPëC‡PSPsCřC,C- P·P°CřC,PsCřCřPIP°PSPSCĹPj
PiPsPIC,PsCĤPSPëC... PrPsP· Cř PrPsCĤPsCřP»PëC... C‰CřCĤC-PI. PhPrPSP°Pe
P·P±C-P»CHC€PµPSPSCĹ PeC-P»CHPePsCřC,C- P'-PeP»C-C,PëPS, CĹPePµ
CřPiPsCřC,PµCĤC-PiP°P»PsCřCĹ Cř PjPsP»PsPrPëC... C‰CřCĤC-PI, Cř PrPsCĤPsCřP»PëC...

C%oCfC7C-PI P±CfP»Ps PIC-PrCfCfC,PSC". P—PSP°C±CfC%oC-CfC,CH C†C-C"C—
C7C-P·PSPëC†C- PSPµPIC-PrPsPjP°, P°P»Pµ P±CfP»P° PiC7PsPrPµPjPsPSCfC,C7PsPIP°PSP°
PiPsPIPSP° C—C— PsP±PsC7PsC,PSC-CfC,CH, C¶Pe C- PrP»C¶ P±C-P»CHCëPsCfC,C-
C-PSCëPëC... PIPëCfPSPsPIPeC-PI. P§PµC7PµP· PIPëCfPsPeCf C±CfC,P»PëPIC-CfC,CH
C,PIP°C7PëPS PrPs C,PµC7PëC„P»CfPSPsPjC-PrCf PjPsP»PsPrC- C%oCfC7Pë
P·P°P·PSP°PIP°P»Pë PIPiP»PëPICf PSPëP¶C±PëC... C7C-PIPS-PI, PSC-P¶ PrC-C,Pë PiC7Pë
PjP°PeCfPëPjP°P»CHPSC-PNë C7PµPePsPjPµPSPPrPsPIP°PSC-PNë PrPsP·C- PrP»C¶ P»C7PrPëPSPë
(P7P P"P»).

РлР»С-РSC-С±РSC- С...Р°С7Р°РёС,РµС7РёСfС,РёРёРё.

РµРsРёР°Р·Р°Р°РSPSC¶.

РµС7РµPiP°C7P°C, PhP±P°PrP¶C-Ps^{B®} PiPsPeP°P·P°PSPëPNë PrP»C¶ P»C-PeCfPIP°PSPSC¶
PrPsC7PsCfP»PëC... PiP°C†C-C"PSC,C-PI C,P° PrC-C,PµPNë PIC-PePsPj PIC-Pr 10 C7PsPeC-PI P·
C7PµC†PëPrPëPICfC7C±Ps-C7PµPjC-C,CfC7C±PëPj C7PsP·CfC-C¶PSPëPj CfPeP»PµC7PsP·PsPj
(P PŸ) (Cf C7PsP·PrC-P»C- B«PαP°C7PjP°PePsPrPëPSP°PjC-PeP°B» PSP°PIPµPrPµPSP°
PIP°P¶P»PëPIP° C-PSC„PsC7PjP°C†C-C¶ PiC7Ps PiPsPiCfP»C¶C†C-C7 PiP°C†C-C"PSC,C-PI,
PrP»C¶ C¶PePsC— P±CfP»P° PIPëP·PSP°C±PµPSP° PµC„PµPeC,PëPIPS-CfC,CH
P»C-PeCfPIP°PSPSC¶).

РµС7РsС,РёPiРsРёР°Р·Р°Р°РSPSC¶.

P"C-PiPµC7C±CfC,P»PëPIC-CfC,CH PrPs PrC-C7C±PsC— C7PµC±PsPIPëPSPë P°P±Ps PrPs
P±CfPrCH-C¶PePsC— P· PrPsPiPsPjC-P¶PSPëC... C7PµC±PsPIPëPS, PiPµC7PµP»C-Pe C¶PePëC...
PSP°PIPµPrPµPSPs Cf C7PsP·PrC-P»C- B«PŸPeP»P°PrB».

PŸC¶P¶PePµ PiPsC7CfCëPµPSPSC¶ C„CfPSPeC†C-C— PiPµC±C-PSPëPë (PeP»P°Cf PŸ P·P° P·
PeP»P°CfPëC„C-PeP°C†C-C"C7 P§P°PNëP»PrP°-PµB7™ C7).

P'P°PiC-C,PSC-CfC,CH. P-C-PSPëPë C7PµPiC7PsPrCfPeC,PëPIPSsPiPs PIC-PeCf
PiPsPIPëPSPSC- PIPëPePsC7PëCfC,PsPICfPIP°C,Pë PSP°PrC-PNëPSC- PjPµC,PsPrPë
PePsPSC,C7P°C†PµPiC†C-C— PiC-Pr C±P°Cf P»C-PeCfPIP°PSPSC¶
C,PµC7PëC„P»CfPSPsPjC-PrPsPj C- PiC-CfP»C¶ PNëPsPiPs P·P°PeC-PSC±PµPSPSC¶, PiPsPePë
C7C-PIPµPSC7 PiC7PµPiP°C7P°C,Cf Cf PiP»P°P·PjC- PeC7PsPIC- P·P°P»PëCëP°C"C,CHCfC¶
PIPëC%oPµ 0,02 PjPi/P» (PrPëPI. C7PsP·PrC-P» B«P—P°CfC,PsCfCfPIP°PSPSC¶ Cf PiPµC7C-PsPr
PIP°PiC-C,PSPsCfC,C- P°P±Ps PiPsPrCfPIP°PSPSC¶ PiC7CfPrPrC7B»). PkPµPsP±C...C-PrPSPs
PIPëPeP»C7C±PëC,Pë PIP°PiC-C,PSC-CfC,CH PrPs PiPsC±P°C,PeCf P»C-PeCfPIP°PSPSC¶
PiC7PµPiP°C7P°C,PsPj (PrPëPI. C7PsP·PrC-P» B«P—P°CfC,PsCfCfPIP°PSPSC¶ Cf PiPµC7C-PsPr
PIP°PiC-C,PSPsCfC,C- P°P±Ps PiPsPrCfPIP°PSPSC¶ PiC7CfPrPrC7B»).

PµPµC7C-PsPr PiPsPrCfPIP°PSPSC¶ PiC7CfPrPrC7 (PrPëPI. C7PsP·PrC-P»
B«P—P°CfC,PsCfCfPIP°PSPSC¶ Cf PiPµC7C-PsPr PIP°PiC-C,PSPsCfC,C- P°P±Ps
PiPsPrCfPIP°PSPSC¶ PiC7CfPrPrC7B»).

PŸC¶P¶PeC- C-PjCfPSPsPrPµC„C-C†PëC,PSC- CfC,P°PSPë, PSP°PiC7PëPeP»P°Pr
CfPëPSPPrC7PsPj PSP°P±CfC,PsPiPs C-PjCfPSPsPrPµC„C-C†PëC,Cf (PŸKfP"P).

P—PSP°C±CfC%oC- PiPsC7CfCëPµPSPSC¶ C„CfPSPeC†C-C— C±PµC7PIPSPsPiPs

PeC-CrC,PePsPIPsPiPs PjPsP·PeCr P°P±Ps P·PSP°C±CrC%°P° P°PSPμPjC-CI, P»PμPNεPePsPiPμPSC-CI, PSPμPNεC,CḡPsPiPμPSC-CI P°P±Ps C,CḡPsPjP±PsC†PëC,PsPiPμPSC-CI.

PÿCIP¶PeP° P°PeC,PëPIPSP° C-PSC,,PμPeC†C-CI, PrPs PsPrCrP¶P°PSPSCII (PrPëPI. CḡPsP·PrC-P» B«PhCrPsP±P»PëPIPsCrC,C- P·P°CrC,PsCrCrPIP°PSPSCII»).

PÿCIP¶PePμ PiPsCḡCrC€PμPSPSCII C,,CrPSPeC†C-C— PSPëCḡPsPe, C%°Ps PiPsC,CḡPμP±CrC” PrC-P°P»C-P·Cr, PsCrPeC-P»CHPePë PrPsCrPIC-Pr PeP»C-PSC-C±PSPsPiPs P·P°CrC,PsCrCrPIP°PSPSCII PiCḡPμPiP°CḡP°C,Cr P·P° C,P°PePëC... PsP±CrC,P°PIPëPS PSP°CḡP°P·C- PSPμPrPsCrC,P°C,PSC-PNε.

PÿCIP¶PeP° PiC-PiPsPiCḡPsC,PμC—PSPμPjC-CI, PSP°PiCḡPëPeP»P°Pr, PiCḡPë PSPμC,,CḡPsC,PëC±PSPsPjCr CrPëPSPrCḡPsPjC-.

P·P·P°C”PjPsPrC-CI P· C-PSC€PëPjPë P»C-PeP°CḡCrCHPePëPjPë P·P°CrPsP±P°PjPë C,P° C-PSC€C- PIPëPrPë PIP·P°C”PjPsPrC-PNε.

P—CrPjPsPIP»PμPSPëPNε C,,P°CḡPjP°PePsPeC-PSPμC,PëC±PSPsCḡ PIP·P°C”PjPsPrC-C”Cḡ PIPiP»PëPI C-PSC€PëC... CḡPμC±PsPIPëPS PSP° C,PμCḡPëC,,P»CrPSPsPjC-Pr.

PhCrPSPsPIPSPëPj C€P»CII C...PsPj P±C-PsC,CḡP°PSCrC,,PsCḡPjP°C†C-C— C,PμCḡPëC,,P»CrPSPsPjC-PrCr C” PiC-PrCḡPsP»C-P·, PjPμPSC€ P·PSP°C±CrC%°PëPj C€P»CII C...PsPj бḡ” PsPePëCrP»PμPSPSCII.

PμPsC,C¿P¶PSC- C-PSPrC¿PeC,PsCḡPë C†PëC,PsC...CḡPsPjC¿ P 450 (CYP) C- C,CḡP°PSCrPiPsCḡC,PμCḡC-PI. PμCḡPë PsPrPSPsC±P°CrPSPsPjCr P±P°PiP°C,PsPeCḡP°C,PSPsPjCr PIPiPμPrPμPSPSC- (600 PjPi PsPrPëPS CḡP°P· PSP° PrPsP±Cr PiCḡPsC,CII PiPsPj 22 PrPSC-PI) CḡPëC,,P°PjPiC-C†PëPSCr (C-PSPrCrPeC,PsCḡ CYP2B6, 2C8, 2C9, 2C19, 3A), C%°Ps C,P°PePsP¶ C” C-PSPrCrPeC,PsCḡPsPj PμC,,P»CHPeCrPSPëC... C,CḡP°PSCrPiPsCḡC,PμCḡC-PIB P - PiP»C-PePsPiCḡPsC,PμC—PSCr [P-gp] C,P° P±C-P»PeP° CḡPμP·PëCrC,PμPSC,PSPsCrC,C- CḡP°PeCr PjPsP»PsC±PSPsC— P·P°P»PsP·Pë [breast cancer resistant protein, BCRP], C- P·P°CrC,PsCrCrPIP°PSPSC- C,PμCḡPëC,,P»CrPSPsPjC-PrCr (PsPrPSPsPeCḡP°C,PSPëPNε PiCḡPëPNεPsPj Cr PrPsP·C- 70 PjPi) CrPiPsCrC,PμCḡC-PiP°P»PsCrCH P·PjPμPSC€PμPSPSCII PμPeCrPiPsP·PëC†C-C— C,PμCḡPëC,,P»CrPSPsPjC-PrCr PiCḡPëP±P»PëP·PSPsB PSP° 40 %. P PëC,,P°PjPiC-C†PëPS C,P° C-PSC€C- PIC-PrPsPjC- PiPsC,CrP¶PSC- C-PSPrCrPeC,PsCḡPë CYP C- C,CḡP°PSCrPiPsCḡC,PμCḡC-PI, C,P°PeC- CII Pe PeP°CḡP±P°PjP°P·PμPiC-PS, C,,PμPSPsP±P°CḡP±C-C,P°P», C,,PμPSC-C,PsC—PS C,P° P·PIC-CḡPsP±C-PNε, PSPμPsP±C...C-PrPSPs P· PsP±PμCḡPμP¶PSC-CrC,Cḡ PIPëPePsCḡPëCrC,PsPICrPIP°C,Pë PiC-Pr C±P°Cr P»C-PeCrPIP°PSPSCII C,PμCḡPëC,,P»CrPSPsPjC-PrPsPj.

P¶PsP»PμCrC,PëCḡP°PjC-PS P°P±Ps P°PeC,PëPIPsPIP°PSPμ PIC¿PiC-P»P»CII. P PμPePsPjPμPSPrCrC”C,CHCrCI, C%°PsP± PiP°C†C-C”PSC,P°Pj, CII PeC- PsC,CḡPëPjCrCHC,CH C,PμCḡPëC,,P»CrPSPsPjC-Pr, PSPμ PiCḡPëP·PSP°C±PICrCI C...PsP»PμCrC,PëCḡP°PjC-PS P°P±Ps P°PeC,PëPIPsPIP°PSPμ PICrPiC-P»P»CII, PsCrPeC-P»CHPePë C†Pμ PiCḡPëP·PIPsPrPëC,CH PrPs C€PIPëPrPePsPiPs C,P°

CfCfC,C,C"PIPsPiPs P·PSPëP¶PµPSPSC¶ PePsPSC†PµPSC,C¶P°C†C-C—
C,PµC¶PëC,,P»CfPSPsPjC-PrCf Cf PiP»P°P·PjC- PeC¶PsPIC-, P·P° PIPëPSC¶C,PePsPj
PIPëPiP°PrPeC-PI, PePsP»Pë PiC¶PëCfPePsC¶PµPSPµ PIPëPIPµPrPµPSPSC¶
PiC¶PµPiP°C¶P°C,Cf P· PsC¶PiP°PSC-P·PjCf C" P±P°P¶P°PSPëPj. P'PIP°P¶P°C"C,CHCfC¶C¶,
C%Ps PjPµC...P°PSC-P·Pj C†CHPsPiPs PµC,,PµPeC,Cf P·CfPjPsPIP»PµPSPëPNë
PiC¶PëPiPëPSPµPSPSC¶Pj PµPSC,PµC¶PsPiPµPiP°C,PëC†PSPsC—
C¶PµC†PëC¶PeCfP»C¶C†C-C— C,PµC¶PëC,,P»CfPSPsPjC-PrCf C,P°/P°P±Ps CëP»CfPSPePsPIPs-
PePëCëPePsPIPëPj PrC-P°P»C-P·PsPj C,PµC¶PëC,,P»CfPSPsPjC-PrCf.

P—CfPjPsPIP»PµPSPëPNë C,,P°C¶PjP°PePsPeC-PSPµC,PëC†PSPsC¶ PIP·P°C"PjPsPrC-C"C¶
PIPiP»PëPI C,PµC¶PëC,,P»CfPSPsPjC-PrCf PSP° C-PSCëC- C¶PµC†PsPIPëPSPë.

P'PiP»PëPI C,PµC¶PëC,,P»CfPSPsPjC-PrCf PSP° CfCfP±CfC,C¶P°C,Pë CYP2C8:
C¶PµPiP°PiP»C-PSC-Pr. PµC-CfP»C¶ P±P°PiP°C,PsPeC¶P°C,PSPsPiPs PiC¶PëPNëPsPjCf
C,PµC¶PëC,,P»CfPSPsPjC-PrCf CfPiPsCfC,PµC¶C-PiP°P»PsCfC¶
P·P±C-P»CHCëPµPSPSC¶ CfPµC¶PµPrPSC-C... C¶C-PIPSC-PI C_{max} C- AUC
C¶PµPiP°PiP»C-PSC-PrCf (PI 1,7 C,P° 2,4 C¶P°P·P° PIC-PrPiPsPIC-PrPSPs), C%Ps
CfPIC-PrC†PëC,CH PiC¶Ps C-PSPiC-P±CfC¶PëPNë PIPiP»PëPI
C,PµC¶PëC,,P»CfPSPsPjC-PrCf PSP° CYP2C8 *in vivo*. Pj P·PIb¶™ C¶P·PeCf P· C†PëPj
P»C-PeP°C¶CfCHPeC- P·P°CfPsP±Pë, PjPµC,P°P±PsP»C-P·Pj C¶PePëC...
PsPiPsCfPµC¶PµPrPePsPICfC"C,CHCfC¶C,,PµC¶PjPµPSC,PsPj CYP2C8, C,P°PeC- C¶Pe
C¶PµPiP°PiP»C-PSC-Pr, PiP°PeP»C-C,P°PeCfPµP», PiC-PsPiP»C-C,P°P·PsPS P°P±Ps
C¶PsP·PëPiP»C-C,P°P·PsPS, PSPµPsP±C...C-PrPSPs P·P°CfC,PsCfPsPICfPIP°C,Pë P·
PsP±PµC¶PµP¶PSC-CfC,C¶ PiC-Pr C†P°Cf P»C-PeCfPIP°PSPSC¶
C,PµC¶PëC,,P»CfPSPsPjC-PrPsPj.

P'PiP»PëPI C,PµC¶PëC,,P»CfPSPsPjC-PrCf PSP° PiPµC¶PsC¶P°P»CHPSC-
PePsPSC,C¶P°C†PµPiC,PëPIPë: 0,03 PjPi PµC,PëPSC-P»PµCfC,C¶P°PrC-PsP»Cf C,P° 0,15 PjPi
P»PµPIPsPSPsC¶PiPµCfC,C¶PµP»Cf. PµC-CfP»C¶ P±P°PiP°C,PsPeC¶P°C,PSPsPiPs
PiC¶PëPNëPsPjCf C,PµC¶PëC,,P»CfPSPsPjC-PrCf CfPiPsCfC,PµC¶C-PiP°P»PsCfC¶
P·C¶PsCfC,P°PSPSC¶ CfPµC¶PµPrPSC-C... P·PSP°C†PµPSC¶ C_{max} C- AUC₀₋₂₄
PµC,PëPSC-P»PµCfC,C¶P°PrC-PsP»Cf (Cf 1,58 C,P° 1,54 C¶P°P·P° PIC-PrPiPsPIC-PrPSPs) C,P°
C_{max} C- AUC₀₋₂₄ P»PµPIPsPSPsC¶PiPµCfC,C¶PµP»Cf (PI 1,33 C,P° 1,41 C¶P°P·P°
PIC-PrPiPsPIC-PrPSPs). P¶PsC†P° PSPµP±P°P¶P°PSPsPiPs PIPiP»PëPICf C†C-C"C—
PIP·P°C"PjPsPrC-C— P· C,PµC¶PëC,,P»CfPSPsPjC-PrPsPj PSP° PµC,,PµPeC,PëPIPSC-CfC,CH
PiPµC¶PsC¶P°P»CHPSPëC... PePsPSC,C¶P°C†PµPiC,PëPIC-PI PSPµ PsC†C-PeCfC"C,CHCfC¶C¶,
PNëPsPiPs CfP»C-Pr PiC¶P°C...PsPICfPIP°C,Pë PiC¶Pë PIPëP±PsC¶C-
PiPµC¶PsC¶P°P»CHPSPsPiPs PePsPSC,C¶P°C†PµPiC,PëPICf P°P±Ps PiC-PrP±PsC¶C- PNëPsPiPs
PrPsP·Pë PiC¶Pë P·P°CfC,PsCfCfPIP°PSPSC- PI PePsPjP±C-PSP°C†C-C— P·
C,PµC¶PëC,,P»CfPSPsPjC-PrPsPj.

P'PiP»PëPI C,PµC¶PëC,,P»CfPSPsPjC-PrCf PSP° CfCfP±CfC,C¶P°C, CYP1A2: PePsC,,PµC—PS.
PµC-CfP»C¶ P±P°PiP°C,PsPeC¶P°C,PSPsPiPs PiC¶PëPNëPsPjCf C,PµC¶PëC,,P»CfPSPsPjC-PrCf
CfPiPsCfC,PµC¶C-PiP°P»PsCfC¶ P·PSPëP¶PµPSPSC¶ CfPµC¶PµPrPSC-C... P·PSP°C†PµPSC¶
C_{max} C,P° AUC PePsC,,PµC—PSCf (CfCfP±CfC,C¶P°C,Cf CYP1A2) PSP° 18 % C,P° 55 %
PIC-PrPiPsPIC-PrPSPs, C%Ps CfPIC-PrC†PëC,CH PiC¶Ps C,Pµ, C%Ps
C,PµC¶PëC,,P»CfPSPsPjC-Pr PjPsP¶Pµ P±CfC,Pë CfP»P°P±PePëPj C-PSPPrCfPeC,PsC¶PsPj
CYP1A2 *in vivo*. Pj P·PIb¶™ C¶P·PeCf P· C†PëPj P»C-PeP°C¶CfCHPeC- P·P°CfPsP±Pë,
PjPµC,P°P±PsP»C-P·Pj C¶PePëC... PsPiPsCfPµC¶PµPrPePsPICfC"C,CHCfC¶C¶
C,,PµC¶PjPµPSC,PsPj CYP1A2 (C,P°PeC- C¶Pe PrCfP»PsPeCfPµC,PëPS, P°P»PsCfPµC,C¶PsPs,

C, P_μPsC,, C-P»C-PS C, P° C, PëP·P°PSC-PrPëPS), CÍP»C-Pr P·P°CÍC, PsCÍPsPICrPIP°C, Pë P·
PsP±P_μC₇P_μP¶PSC-CÍC, C₇ PiC-Pr C‡P°CÍ P»C-PeCÍPIP°PSPSCÍ
C, P_μC₇PëC,, P»CÍPSPsPjC-PrPsPj, PsCÍPeC-P»CHPePë PIC-PS PjPsP¶P_μ P·CÍPjPsPIPëC, Pë
P·PSPëP¶P_μPSPSCÍ P_μC,, P_μPeC, PëPIPSPsCÍC, C- C‡PëC... PiC₇P_μPiP°C₇P°C, C-PI.

P'PiP»PëPI C, P_μC₇PëC,, P»CÍPSPsPjC-PrCÍ PSP° PIP°C₇PëPS. P_μC-CÍP»CÍ
P±P°PiP°C, PsPeC₇P°C, PSPsPiPs PiC₇PëPM₂PsPjCÍ C, P_μC₇PëC,, P»CÍPSPsPjC-PrCÍ PSP_μ
CÍPiPsCÍC, P_μC₇C-PiP°P»PsCÍCÍ PIPiP»PëPICr PSP° C,, P°C₇PjP°PePsPeC-PSP_μC, PëPeCÍ S-
PIP°C₇C,, P°C₇PëPSCr, C%₀Ps CÍPIC-PrC‡PëC, CH PiC₇Ps C, P_μ, C%₀Ps
C, P_μC₇PëC,, P»CÍPSPsPjC-Pr PSP_μ C" P°PSC- C-PSPiC-P±C-C, PsC₇PsPj, P°PSC-
C-PSPrCÍPeC, PsC₇PsPj CYP2C9. P_μC₇PsC, P_μ PiC₇Pë PsPrPSPsC‡P°CÍPSPsPjCÍ
P·P°CÍC, PsCÍCÍPIP°PSPSC- C, P_μC₇PëC,, P»CÍPSPsPjC-PrCÍ C- PIP°C₇C,, P°C₇PëPSCr
PIC-PrP·PSP°C‡P°P»PsCÍCÍ P·PSPëP¶P_μPSPSCÍ PjP°PeCÍPëPjP°P»CHPSPsPiPs
PjC-P¶PSP°C₇PsPrPSPsPiPs PSPsC₇PjP°P»C-P·PsPIP°PSPsPiPs PIC-PrPSPsC€P_μPSPSCÍ (P_hP_kP')
PSP° 25 % PiPsC₇C-PIPSCÍPSPs P· C, P°PePëPj PSP° C,, PsPSC- PjPsPSPsC, P_μC₇P°PiC-C—
PIP°C₇C,, P°C₇PëPSPsPj. Pj P·PiB₇TM CÍP·PeCÍ P· C‡PëPj PiC₇Pë PsPrPSPsC‡P°CÍPSPsPjCÍ
PiC₇PëPM₂PsPjC- PIP°C₇C,, P°C₇PëPSCr P· C, P_μC₇PëC,, P»CÍPSPsPjC-PrPsPj
C₇P_μPePsPjP_μPSPrCÍC" C, CHCÍCÍ C₇P_μC, P_μP»CHPSPëPM₂ PePsPSC, C₇PsP»CH C-
PjPsPSC-C, PsC₇PëPSi P_hP_kP'.

P'PiP»PëPI C, P_μC₇PëC,, P»CÍPSPsPjC-PrCÍ PSP° CÍCÍP±CÍC, C₇P°C, Pë
C, C₇P°PSCÍPiPsC₇C, P_μC₇CÍ PsC₇PiP°PSC-C‡PSPëC... P°PSC-PsPSC-PI 3 (OAT3). P_μC-CÍP»CÍ
P±P°PiP°C, PsPeC₇P°C, PSPsPiPs PiC₇PëPM₂PsPjCÍ C, P_μC₇PëC,, P»CÍPSPsPjC-PrCÍ
CÍPiPsCÍC, P_μC₇C-PiP°P»PsCÍCÍ P·P±C-P»CHC€P_μPSPSCÍ CÍP_μC₇P_μPrPSC-C...
C₇C-PIPSC-PI C_{max} C- AUC C‡P_μC,, P°PeP»PsC₇CÍ (PI 1,43 C, P° 1,54 C₇P°P·P°
PIC-PrPiPsPIC-PrPSPs), C%₀Ps CÍPIC-PrC‡PëC, CH PiC₇Ps C-PSPiC-P±CÍCHC‡PëPM₂ PIPiP»PëPI
C, P_μC₇PëC,, P»CÍPSPsPjC-PrCÍ PSP° OAT3 *in vivo*. Pj P·PiB₇TM CÍP·PeCÍ P· C‡PëPj
C₇P_μPePsPjP_μPSPrPsPIP°PSPs PrPsC, C₇PëPjCÍPIP°C, PëCÍCÍ PsP±P_μC₇P_μP¶PSPsCÍC, C-
PiC₇Pë PsPrPSPsC‡P°CÍPSPsPjCÍ PiC₇PëP·PSP°C‡P_μPSPSC- C, P_μC₇PëC,, P»CÍPSPsPjC-PrCÍ C, P°
CÍCÍP±CÍC, C₇P°C, C-PI OAT3, C, P°PePëC... CÍPe C‡P_μC,, P°PeP»PsC₇,
P±P_μPSP·PëP»PiP_μPSC-C‡PëP»C-PS, C‡PëPiC₇PsC,, P»PsPeCÍP°C‡PëPS,
C-PSPrPsPjP_μC, P°C‡PëPS, PeP_μC, PsPiC₇PsC,, P_μPS, C,, CÍC₇PsCÍP_μPjC-Pr, C‡PëPjP_μC, PëPrPëPS,
PjP_μC, PsC, C₇P_μPeCÍP°C,, P·PëPrPsPICrPrPëPS.

P'PiP»PëPI C, P_μC₇PëC,, P»CÍPSPsPjC-PrCÍ PSP° CÍCÍP±CÍC, C₇P°C, Pë BCRP C, P°/P°P±Ps
PiPsP»C-PiP_μPiC, PëPrPSPëC... C, C₇P°PSCÍPiPsC₇C, P_μC₇C-PI PsC₇PiP°PSC-C‡PSPëC...
P°PSC-PsPSC-PI B1 C- B3 (OATP1B1/B3). P_μC-CÍP»CÍ P±P°PiP°C, PsPeC₇P°C, PSPsPiPs
PiC₇PëPM₂PsPjCÍ C, P_μC₇PëC,, P»CÍPSPsPjC-PrCÍ CÍPiPsCÍC, P_μC₇C-PiP°P»PsCÍCH
P·P±C-P»CHC€P_μPSPSCÍ CÍP_μC₇P_μPrPSC-C... C₇C-PIPSC-PI C_{max} C- AUC
C₇PsP·CÍPIP°CÍC, P°C, PëPSCr (PI 2,65 C, P° 2,51 C₇P°P·P° PIC-PrPiPsPIC-PrPSPs). P_μC₇PsC, P_μ
PSP_μ P±CÍP»Ps PIC-PrP·PSP°C‡P_μPSPs P±CÍPrCH-CÍPePsPiPs PiPsPjC-C, PSPsPiPs PIPiP»PëPICr
C‡CHPsPiPs P·P±C-P»CHC€P_μPSPSCÍ P_μPeCÍPiPsP·PëC‡C-C— C₇PsP·CÍPIP°CÍC, P°C, PëPSCr
CÍ PiP»P°P·PjC- PeC₇PsPIC- PSP° P°PeC, PëIPSC-CÍC, CH P"PhP"-P_hPsA
(PiC-PrC₇PsPeCÍPëPjP_μC, PëP»PiP»CÍC, P°C₇PëP»-PePsP_μPSP·PëPj P_h) C₇P_μPrCÍPeC, P°P·Pë.
P_μC₇Pë PsPrPSPsC‡P°CÍPSPsPjCÍ PiC₇PëP·PSP°C‡P_μPSPSC- P· C, P_μC₇PëC,, P»CÍPSPsPjC-PrPsPj
C₇P_μPePsPjP_μPSPrCÍC" C, CHCÍCÍ P·PSPëP¶P_μPSPSCÍ PrPsP·Pë C₇PsP·CÍPIP°CÍC, P°C, PëPSCr
PSP° 50 %. PhPrPSPsC‡P°CÍPSP_μ P·P°CÍC, PsCÍCÍPIP°PSPSCÍ C-P·
C, P_μC₇PëC,, P»CÍPSPsPjC-PrPsPj C-PSC€PëC... CÍCÍP±CÍC, C₇P°C, C-PI BCRP
(PSP°PiC₇PëPeP»P°Pr PjP_μC, PsC, C₇P_μPeCÍP°C, CÍ, C, PsPiPsC, P_μPeP°PSCr,
CÍCÍP»CHC,, P°CÍP°P»P°P·PëPSCr, PrP°CÍPSPsC₇CÍP±C-C‡PëPSCr,
PrPsPeCÍPsC₇CÍP±C-C‡PëPSCr) C, P° C, C₇P°PSCÍPiPsC₇C, P_μC₇C-PI OATP, PsCÍPsP±P»PëPIPs

C-PSPIc-P±C-C,PsCḡC-PI P°PḡP°-PḡPsA CḡPμPrCíPeC,P°P·Pë (PSP°PíCḡPëPeP»P°Pr CíPëPjPIP°CíC,P°C,PëPSCr, P°C,PsCḡPIP°CíC,P°C,PëPSCr, PíCḡP°PIP°CíC,P°C,PëPSCr, PjPμC,PsC,CḡPμPeCíP°C,Cr, PSP°C,PμPiP»C-PSC-PrCí, CḡPμPíP°PiP»C-PSC-PrCí, CḡPëC,,P°PjPíC-C†PëPSCr), PIPëPjP°PiP°C” PsP±PμCḡPμPḡPSPSCíC,C-. P—P° PíP°C†C-C”PSC,P°PjPë CíP»C-Pr CḡPμC,PμP»CHḡPSPs CíPíPSCíC,PμCḡC-PiP°C,Pë C%PsPrPs PíPSCḡPIPë CíPëPjPíC,PsPjC-PI PSP°PrPjC-CḡPSPëC... PePsPSC†PμPSC,CḡP°C†C-PNḡ C†PëC... P»C-PeP°CḡCíCḡPePëC... P·P°CíPSP±C-PI PI PeCḡPsPIC- C,P° P·PIP°PḡCíPIP°C,Pë PrPsC†C-P»CHḡPSC-CíC,CHḡ P·PSPëPḡPμPSPSCḡ C—C... PrPsP·Pë.

PhCíPSP±P»PëPIPsCíC,C- P·P°CíC,PsCíCḡPIP°PSPSCḡ.

PjPμPNḡ P»C-PeP°CḡCíCḡPePëPNḡ P·P°CíC-P± PjC-CíC,PëC,CHḡ PSP°C,CḡC-CHḡ PeCḡPsC...PjP°P»CHḡPiP»C-PePsP»CḡC, (C,PëPí Ph). PŸP»C-Pr P±CíC,Pë PsP±PμCḡPμPḡPSPëPj PíCḡPë P·P°CíC,PsCíCíPIP°PSPSC- PíP°C†C-C”PSC,P°Pj, CḡPeC- P·P°CíC,PsCíPSPICíCḡC,CHḡ PSP°C,CḡC-PNḡ-PePsPSC,CḡPsP»CHḡPsPIP°PSCr PrC-C”C,Cr.

PḡPsPSC-C,PsCḡPëPSPi

P”Ps P»C-PeCḡPIP°PSPSCḡ.

P”Ps PíPSC†P°C,PeCí P»C-PeCíPIP°PSPSCḡ C,PμCḡPëC,,P»CíPSPsPjC-PrPsPj PSPμPsP±C...C-PrPSPs PsC†C-PSPëC,Pë C,P°PeC- PíPsPeP°P·PSPëPePë:

B· P°CḡC,PμCḡC-P°P»CHḡPSPëPNḡ C,PëCíPe;

B· CḡC-PIPμPSCḡ P°P»P°PSC-PSP°PjC-PSPsC,CḡP°PSCíC,,PμCḡP°P·Pë/ CíPëCḡPsPIP°C,PePsPIPsC— PiP»CíC,P°PjP°C,-PíC-CḡCíPIP°C,-C,CḡP°PSCíP°PjC-PSP°P·Pë (PhP>PŸ/PŸP”PμPŸ);

B· CḡPsP·PiPsCḡPSCrC,PëPNḡ P·P°PiP°P»CHḡPSPëPNḡ P°PSP°P»C-P· PeCḡPsPIC-, Cr C,.C†. P»PμPNḡPePsC†PëC,P°CḡPSP° C,,PsCḡPjCíP»P° C,P° PIPëP·PSP°C†PμPSPSCḡ PIPjC-CíC,Cr C,CḡPsPjP±PsC†PëC,C-PI.

PμC-Pr C†P°Cí P»C-PeCḡPIP°PSPSCḡ. PμC-Pr C†P°Cí P»C-PeCíPIP°PSPSCḡ C,PμCḡPëC,,P»CíPSPsPjC-PrPsPj PSPμPsP±C...C-PrPSPs PePsPSC,CḡPsP»CHḡPIP°C,Pë C,P°PeC- PíPsPeP°P·PSPëPePë:

B· B P°CḡC,PμCḡC-P°P»CHḡPSPëPNḡ C,PëCíPe (PíPμCḡC-PsPrPëC†PSPs PíPμCḡPμPIC-CḡCḡC,Pë);

B· CḡC-PIPμPSCḡ P°P»P°PSC-PSP°PjC-PSPsC,CḡP°PSCíC,,PμCḡP°P·Pë/ CíPëCḡPsPIP°C,PePsPIPsC— PiP»CíC,P°PjP°C,-PíC-CḡCíPIP°C,-C,CḡP°PSCíP°PjC-PSP°P·Pë (PhP>PŸ/PŸP”PμPŸ). PμPμC†C-PSPePsPIC- C,,PμCḡPjPμPSC,Pë CíP»C-Pr PsC†C-PSCḡPIP°C,Pë C%PsPSP°PNḡPjPμPSC€Pμ PePsPḡPSC- C†PsC,PëCḡPë C,PëPḡPSC- PíCḡPsC,CḡPiPsPj PíPμCḡC€PëC... 6 PjC-CíCḡC†C-PI P»C-PeCíPIP°PSPSCḡ C,P° CḡPμPiCíP»CḡCḡPSPs PíC-CíP»Cḡ C†CHḡPsPiPs PíPμCḡC-PsPrCí. P”PsC†C-P»CHḡPSPs CḡPsP·PiP»CḡPSCrC,Pë PjPsPḡP»PëPIC-CíC,CHḡ PrPsPrP°C,PePsPIPsPiPs PjPsPSC-C,PsCḡPëPSPiCí, Cr PIPëPíP°PrPeP°C... PePsP»Pë PíCḡPμPíP°CḡP°C, PhP±P°PrPḡC-Ps° PíCḡPëP·PSP°C†P°C”C,CHḡCíCḡ PíP°C†C-C”PSC,P°Pj P· CíPḡPμ C-CíPSCrCḡC†PëPjPë P·P°C...PIPsCḡCHḡPIP°PSPSCḡPjPë PíPμC†C-PSPePë, Cr

PePsPjP±C-PSP°C†C-C— P· C-PSC€PëPjPë PiPsC,PµPSC†C-PNëPSPs
PiPµPiP°C,PsC,PsPeC†PëC±PSPëPjPë PiCḡPµPiP°CḡP°C,P°PjPë P°P±Ps PiCḡPë
PIPëPSPëPePSPµPSPSC- PeP»C-PSC-C±PSPëC... C†PëPjPiC,PsPjC-PI, C,P°PePëC... CµPe
PSPµP·Bḡ™ CµC†PsPIP°PSP° PSC†PrPsC,P°, P±P»CḡPIP°PSPSCµ, P±C-P»Cḡ Cr P¶PëPIPsC,C-,
PIC,PsPjP°, P°PSPsCḡPµPeC†C-Cµ P°P±Ps P¶PsPIC,CµPSPëC†Cµ C,P°/P°P±Ps C,PµPjPSP°
C†PµC±P°. PµPµC±C-PSPePsPIC- C,,PµCḡPjPµPSC,Pë C†P»C-Pr PsC†C-PSCḡPIP°C,Pë PePsP¶PSC-
PrPIP° C,PëP¶PSC- PiCḡPsC,CµPiPsPj PiPµCḡC€PëC... 6 PjC-C†CµC†C-PI P»C-PeC†PIP°PSPSCµ
C,P° C%PsPSP°PNëPjPµPSC€Pµ PePsP¶PSC- 8 C,PëP¶PSC-PI PiCḡPsC,CµPiPsPj
C%PsPSP°PNëPjPµPSC€Pµ 2 CḡPsPeC-PI PIC-Pr PiPsC±P°C,PeC† P»C-PeC†PIP°PSPSCµ. PµCḡPë
PiC-PrPIPëC%PµPSPSC- CḡC-PIPSCµ PḡP·Pḡ (PḡP“PµPḡ) Cr 2-3 CḡP°P·Pë PIPëC%Pµ
PIPµCḡC...PSCḡPsC— PjPµP¶C- PSPsCḡPjPë C†P»C-Pr PiCḡPsPIPsPrPëC,Pë
PjPsPSC-C,PsCḡPëPSPi C%PsC,PëP¶PSCµ;

B· B B Cr C...PsPrC- P»C-PeC†PIP°PSPSCµ PSPµPsP±C...C-PrPSPs PIPëPePsPSC†PIP°C,Pë
CḡPsP·PiPsCḡPSC†C,PëPNë P·P°PiP°P»CḡPSPëPNë P°PSP°P»C-P· PeCḡPsPIC- P· PsPiP»CµPrCr
PSP° B B PIPëPSPëPePSPµPSPSCµB C†PëPjPiC,PsPjC-PI (PSP°PiCḡPëPeP»P°Pr, PiCḡPë
C-PSC,,PµPeC†C-CµC...).

PµCḡPsC†PµPrCrCḡP° PiCḡPëC†PePsCḡPµPSPsPiPs PIPëPIPµPrPµPSPSCµ.

PḡPµCḡPëC,,P»C†PSPsPjC-Pr PiPsPIC-P»CḡPSPs PIPëPIPsPrPëC,CḡC†Cµ P·
PiP»P°P·PjPë PeCḡPsPIC-. P'PµP· P·P°C†C,PsC†CrPIP°PSPSCµ PiCḡPsC†PµPrCrCḡPë
PiCḡPëC†PePsCḡPµPSPsPiPs PIPëPIPµPrPµPSPSCµ PSPµPsP±C...C-PrPSPs PI
C†PµCḡPµPrPSCḡPsPjCr 8 PjC-C†CµC†C-PI PrP»Cµ PrPsC†CµPiPSPµPSPSCµ
PiP»P°P·PjPsPIPëC... PePsPSC†PµPSC,CḡP°C†C-PNë PSPëP¶C±Pµ 0,02 PjPi/P», C...PsC±P°
C±PµCḡPµP· C-PSPrPëPIC-PrC†P°P»CḡPSC† PIP°CḡC-P°P±PµP»CḡPSC-C†C,Cḡ
PeP»C-CḡPµPSC†Cr PrC-CḡC±PsC— CḡPµC±PsPIPëPSPë C†PµPNë PiCḡPsC†PµC† PjPsP¶Pµ
C,CḡPëPIP°C,Pë PrPs 2 CḡPsPeC-PI. PµCḡPsC†PµPrCrCḡCr PiCḡPëC†PePsCḡPµPSPsPiPs
PIPëPIPµPrPµPSPSCµ PjPsP¶PSP° P·P°C†C,PsC†PsPIC†PIP°C,Pë Cr P±C†PrCḡ-CµPePëPNë
C±P°C† PiC-C†P»Cµ PiCḡPëPiPëPSPµPSPSCµ PiCḡPëPNëPsPjCr C,PµCḡPëC,,P»C†PSPsPjC-PrCr
(PrPëPI. PrPµC,P°P»CḡPSPëPNë PsPiPëC† PiCḡPsC†PµPrCrCḡPë Cr CḡPsP·PrC-P»P°C...
B«PαP°CḡPjP°PePsPeC-PSPµC,PëPeP°B» C- B«P—P°C†C,PsC†CrPIP°PSPSCµ Cr PiPµCḡC-PsPr
PIP°PiC-C,PSPsC†C,C- P°P±Ps PiPsPrCrPIP°PSPSCµ PiCḡCrPrPrCḡB»).

P'PiP»PëPI PSP° PiPµC±C-PSPeC†. Pj PiP°C†C-C”PSC,C-PI, CµPeC- PiCḡPëPNëPjP°P»Pë
C,PµCḡPëC,,P»C†PSPsPjC-Pr, C†PiPsC†C,PµCḡC-PiP°P»PsC†Cµ PiC-PrPIPëC%PµPSPSCµ
CḡC-PIPSC-PI PiPµC±C-PSPePsPIPëC... C,,PµCḡPjPµPSC,C-PI (PrPëPI. CḡPsP·PrC-P»
B«PµPsP±C-C±PSC- CḡPµP°PeC†C-C—B»). PḡP°PePµ PiC-PrPIPëC%PµPSPSCµ PIPëPSPëPeP°C”
PiPµCḡPµPIP°P¶PSPs PiCḡPsC,CµPiPsPj PiPµCḡC€PëC... 6 PjC-C†CµC†C-PI
P»C-PeC†PIP°PSPSCµ.

PµC-Pr C±P°C† P»C-PeC†PIP°PSPSCµ C,PµCḡPëC,,P»C†PSPsPjC-PrPsPj
C†PiPsC†C,PµCḡC-PiP°P»PëC†Cḡ PIPëPiP°PrPePë PjPµPrPëPeP°PjPµPSC,PsP·PSPsPiPs
CrCḡP°P¶PµPSPSCµ PiPµC±C-PSPePë (PḡPjPµ), CµPeC- C-PSPsPrC- C†C,P°PSPsPIPëP»Pë
P·P°PiCḡPsP·Cr PrP»Cµ P¶PëC,C,Cµ. Pj P±C-P»CḡC€PsC†C,C- PIPëPiP°PrPeC-PI PḡPjPµ
CḡPsP·PIPëPIP°P»PsC†Cµ PiCḡPsC,CµPiPsPj PrPµPeC-P»CḡPePsC... C,PëP¶PSC-PI P°P±Ps
PjC-C†CµC†C-PI P· PjPsPjPµPSC,C† PiPsC±P°C,PeC† P»C-PeC†PIP°PSPSCµ, P°P»Pµ PḡPjPµ
C,P°PePsP¶ PjPsP¶Pµ PIPëPSPëPeP°C,Pë PiCḡPë C,CḡPëPIP°P»PsPjCr
P·P°C†C,PsC†CrPIP°PSPSC- C,PµCḡPëC,,P»C†PSPsPjC-PrCr.

P PëP·PëPe PiC-PrPIPëC%PµPSPSCµ CḡC-PIPSCµ PiPµC±C-PSPePsPIPëC... C,,PµCḡPjPµPSC,C-PI

C, P° P_hPJ_P P_iC_hP_e P»C-PeC_rPIP°PSPSC- C, P_uC_hP_eC,, P»C_rPSPsPjC-PrPsPj PjPsP_hP_u P±C_rC, P_e PIP_eC%_oP_ePj C_r P_iP°C_†C-C" PSC, C-PI C-P. C_rP_hP_u C-C_rPSC_rC_hC_†P_ePjP_e C_rC_hP°P_hP_uPSPSC_†PjP_e P_iP_uC_†C-PSPeP_e, P_iC_hP_e C_rC_rP_iC_rC, PSC_hPsPjC_r P»C-PeC_rPIP°PSPSC- C-PSC_eP_ePjP_e P_iP_uP_iP°C, PsC, PsPeC_rP_eC_†PSP_ePjP_e P_iC_hP_uP_iP°C_hP°C, P°PjP_e C, P°/P°P±Ps P·P»PsPIP_hP_ePIP°PSPSC- P°P»PePsPiPsP»P_uPj. P_yPsPjC_r P·P° C_rC, P°PSPsPj P_iP°C_†C-C" PSC, C-PI C_rP»C-Pr C_hP_uC, P_uP»C_hPSPs C_rP_iPsC_rC, P_uC_hC-PiP°C, P_e C%_oPsPrPs P_iPsC_†PIP_e PsP·PSP°Pe C, P° C_rP_ePjP_iC, PsPjC-PI C_rC_hP°P_hP_uPSPSC_† P_iP_uC_†C-PSPeP_e.

P_iPeC%_oPs PIP_ePSP_ePeP°C" P_iC-PrPsP·C_hP° PSP° C_rC_hP°P_hP_uPSPSC_† P_iP_uC_†C-PSPeP_e, P»C-PeC_rPIP°PSPSC_† C, P_uC_hP_eC,, P»C_rPSPsPjC-PrPsPj PSP_uPsP±C...C-PrPSPs P_iC_hP_eP_iP_ePSP_eC, P_e C, P° P_iPsC_†P°C, P_e P_iC_hPsC_†P_uPrC_rC_hC_r P_iC_hP_eC_rPePsC_hP_uPSPsPiPs PIP_ePIP_uPrP_uPSPSC_† P_iC_hP_uP_iP°C_hP°C, C_r. P_hPsP_hP»P_ePIC-C_rC, C_h PIC-PrPjC-PSP_e C, P_uC_hP_eC,, P»C_rPSPsPjC-PrC_r C_rP»C-Pr C_hPsP·PiP»C_†PSC_rC, P_e, C_†PeC%_oPs P_iC-PrC, PIP_uC_hPrP_hP_uPSPs P_iC-PrPIP_eC%_oP_uPSPSC_† C_hC-PIPSC-PI P_iP_uC_†C-PSPePsPIP_eC... C,, P_uC_hPjP_uPSC, C-PI P±C-P»C_hC_e PSC-P_h C_r 3B C_hP°P·P_e P_iPsC_hC-PIPSC_†PSPs P· P'P_hP_k.

Pj C_hP°P·C- P_iC_hP_eP_iP_ePSP_uPSPSC_† P»C-PeC_rPIP°PSPSC_† P_iP_uC_†C-PSPePsPIC- P_iC_hPsP±P_e C_rP»C-Pr P_iC_hPsPiPsPrP_eC, P_e PrPs PSPsC_hPjP°P»C-P·P°C_†C-C— C_hC-PIPSC_† C, C_hP°PSC_rP°PjC-PSP°P·.

P"C-P_iPsP_iC_hPsC, P_uC—PSP_uPjC-C_†

P_hC_rPeC-P»C_hPeP_e C, P_uC_hP_eC,, P»C_rPSPsPjC-Pr PjP°C" PIP_eC_rPsPeC_r C_rC, C_rP_iC-PSCH P·PIB_hTM C_†P·C_rPIP°PSPSC_† P· P±C-P»PeP°PjP_e C- PsC_rPeC-P»C_hPeP_e P·PIB_hTM C_†P·C_rPIP°PSPSC_† P·P°P»P_uP_hP_eC, C_h PIC-Pr PePsPSC_†P_uPSC, C_hP°C_†C-C— P°P»C_hP±C_rPjC-PSC_r, PsC_†C-PeC_rC" C, C_hC_rC_† P_iC-PrPIP_eC%_oP_uPSPSC_† PePsPSC_†P_uPSC, C_hP°C_†C-PN_e PSP_uP·PIB_hTM C_†P·P°PSPsPiPs C, P_uC_hP_eC,, P»C_rPSPsPjC-PrC_r C_r P_iP»P°P·PjC- C_r P_iP°C_†C-C" PSC, C-PI P· P_iC-P_iPsP_iC_hPsC, P_uC—PSP_uPjC-C" C_h, PSP°P_iC_hP_ePeP»P°Pr, P_iC_hP_e PSP_uC,, C_hPsC, P_eC_†PSPsPjC_r C_rP_ePSPrC_hPsPjC-. P_yP_uC_hP_eC,, P»C_rPSPsPjC-Pr PSP_u C_rP»C-Pr P·P°C_rC, PsC_rPsPIC_rPIP°C, P_e P_iP°C_†C-C" PSC, P°Pj P_iC_hP_e C, C_†P_hPeC-PN_e P_iC-P_iPsP_iC_hPsC, P_uC—PSP_uPjC-C—.

P'P_iP»P_ePI PSP° P°C_hC, P_uC_hC-P°P»C_hPSPePN_e C, P_eC_rPe. P_kP° C, P»C- P»C-PeC_rPIP°PSPSC_† C, P_uC_hP_eC,, P»C_rPSPsPjC-PrPsPj PjPsP_hP»P_ePIP_u P_iC-PrPIP_eC%_oP_uPSPSC_† P°C_hC, P_uC_hC-P°P»C_hPSPsPiPs C, P_eC_rPeC_r (PrP_ePI. C_hPsP·PrC-P» B«P_uPsP±C-C_†PSC-C_hP_uP°PeC_†C-C—B»). P_kP_uPsP±C...C-PrPSPs P_iP_uC_hP_uPIC-C_hC_†C, P_e C_hC-PIP_uPSCH P°C_hC, P_uC_hC-P°P»C_hPSPsPiPs C, P_eC_rPeC_r P_iP_uC_hP_uPr P_iPsC_†P°C, PePsPj C, P_uC_hP°P_iC-C— C, P_uC_hP_eC,, P»C_rPSPsPjC-PrPsPj C, P° P_iP_uC_hC-PsPrP_eC_†PSPs PSP°PrP°P»C-. P_uC-PrPIP_eC%_oP_uPSPSC_† P°C_hC, P_uC_hC-P°P»C_hPSPsPiPs C, P_eC_rPeC_r PIP_ePjP°P_iP°C" PIC-PrP_iPsPIC-PrPSPsPiPs P»C-PeC_rPIP°PSPSC_† PrPs C, P° P_iC-Pr C_†P°C_r C, P_uC_hP°P_iC-C— C, P_uC_hP_eC,, P»C_rPSPsPjC-PrPsPj.

P_†PSC,, P_uPeC_†C-C—. Pj P_iP°C_†C-C" PSC, C-PI P· C, C_†P_hPeP_ePjP_e P°PeC, P_ePIPSP_ePjP_e C-PSC,, P_uPeC_†C-C_†PjP_e C_rP»C-Pr PIC-PrPeP»P°C_rC, P_e P_iPsC_†P°C, PsPe C, P_uC_hP°P_iC-C— C, P_uC_hP_eC,, P»C_rPSPsPjC-PrPsPj PrPs PsPrC_rP_hP°PSPSC_†.

Pj P_iP»P°C_†P_uP±Ps-PePsPSC, C_hPsP»C_hPsPIP°PSP_eC... PrPsC_rP»C-PrP_hP_uPSPSC_†C... PSP_u C_rP_iPsC_rC, P_uC_hC-PiP°P»PsC_rC_† P_iC-PrPIP_eC%_oP_uPSPSC_† C_†P°C_rC, PsC, P_e C_rP_uC_hPN_ePsP·PSP_eC... C-PSC,, P_uPeC_†C-PN_e PSP° C, P»C- P»C-PeC_rPIP°PSPSC_† C, P_uC_hP_eC,, P»C_rPSPsPjC-PrPsPj (PrP_ePI. C_hPsP·PrC-P» B«P_uPsP±C-C_†PSC-C_hP_uP°PeC_†C-C—B»). P_hPrPSP°Pe, PIC_hP°C...PsPIC_rC_hC_†P_e C-PjC_rPSPsPjPsPrC_rP»C_hC_hC_†PePN_e P_uC,, P_uPeC, C, P_uC_hP_eC,, P»C_rPSPsPjC-PrC_r, P_iC_hP_e

Р'РіР»РёРІ РSP° РeСґРsРІРsС,РІРsСґРµРsРSPSCІІ. Р'С-РrР·РSP°С±Р°Р»РsСГІСІІ
Р·РјРµРsС€РµРsРSPSCІІ РeС-Р»СґРeРsСГІС,С- Р»РµРNеРeРsСГРёС,С-РІ СГ
СГРµСґРµРsРrССґРsРјСГ РSP° РјРµРsС€ РSC-Р¶ 15 % РІС-Рr РіРsС±Р°С,РeРsРІРsРіРs
СґС-РІРSCІІ (РrРёРІ. СґРsР·РrС-Р» В«РµРsР±С-С±РSC- СґРµР°РeСГС-С—В»). РІРe
Р·Р°РіРsР±С-Р¶РSPёРNе Р·Р°С...С-Рr РSPµРsР±С...С-РrРSPs РSPµР·РrРsРІРіРs РrРs
РіРsС±Р°С,РeСГ Р»С-РeСГРІР°РSPSCІІ РsС,СґРёРјР°С,Рё СґРµР·Р»С»СґРµС,Р°С,Рё
СґРsР·РіРsСґРsСГС,РsРіРs Р·Р°РіР°Р»»СґРsРіРs Р°РSP°Р»С-Р·Р РeСґРsРІС-, РІ С,РsРјСГ
С±РёСГР»С- Р· Р»РµРNеРeРsСГРёС,Р°СґРsРsСґ С,,РsСґРјСГР»Р»Р»Сґ С,Р°
РІРёР·РSP°С±РµРsРSPSCІІ РІРјС-СГС,СГ С,СґРsРј±РsСГРёС,С-РІ, С- РІРёРeРsРsСГРІР°С,Рё
СґРsР·РіРsСґРsСГС,РёРNе Р·Р°РіР°Р»»СґРsРёРNе Р°РSP°Р»С-Р· РeСґРsРІС- РіС-Рr С±Р°СГ
С,РµСґР°РіС- Р· РsРіР»СІРrСГ РSP° РeР»С-РSC-С±РSC- РsР·РSP°РeРё С,Р° СГРёРјРіС,РsРјРё
(РSP°РіСґРёРeР»»Рr, СГ СґР°Р·С- СґРsР·РІРёС,РeСГ С-РSC,,РµСГС-С—).

Рј РіР°СГС-С"РSC,С-РІ Р· СГР¶Рµ С-СГРsСГСґСґС±РsСґ Р°РSPµРјС-С"Сґ,
Р»РµРNеРeРsРіРµРsС-С"Сґ С,Р°/Р°Р±Рs С,СґРsРј±РsСГРёС,РsРіРµРsС-С"Сґ, Р° С,Р°РeРsР¶ СГ
РіР°СГС-С"РSC,С-РІ Р· РіРsСґСГС€РµРsРSPSCІІ Рј С,,СГРSPeСГС-С— С±РµСґРІРsРSPsРіРs
РeС-СГС,РeРsРІРsРіРs РјРsР·РeСГ С±Рё Р· СґРёР·Р·РeРsРј РіСґРёРІС-С±РµРsРSPSCІІ
С,,СГРSPeСГС-С— С±РµСґРІРsРSPsРіРs РeС-СГС,РeРsРІРsРіРs РјРsР·РeСГ Р·СґРsСГІС,Р°С"
СґРёР·Р·РeР СґРsР·РІРёС,РeСГ СґРsР·Р»»РrС-РІ РeСґРsРІРsС,РІРsСґРµРsРSPSCІІ. РІРeС%Рs
РІРёРSPёРeР°СґС,Сґ С,Р°РeС- РµС,,РµРeС,Рё, СГР»С-Рr Р·РІР°Р¶РёС,Рё
РrРsСГС-Р»СґРSC-СГС,Сґ Р·Р°СГС,РsСГІСГРІР°РSPSCІІ РіСґРsСГРµРrСГСґРё
РіСґРёСГРіРeРsСґРµРsРSPsРіРs РІРёРІРµРµРµРsРSPSCІІ (РrРёРІ. РІРёС%Рµ В«РµСґРsСГРµРrСГСґР
РіСґРёСГРіРeРsСґРµРsРSPsРіРs РІРёРІРµРµРµРsРSPSCІІВ») РrР»СІ Р·РSPёР¶РµРsРSPSCІІ СґС-РІРSCІІ
С,РµСґРёС,,Р»СГРSPsРјС-РrСГ СГ РіР»»Р°Р·С- РeСґРsРІС-.

Рј СґР°Р·С- СґРsР·РІРёС,РeСГ С,СІР¶Р¶РeРё... РіРµРјРјР°С,РsР»РsРіС-С±РSPёС...
СґРµР°РeСГС-РNе, СГ С,РsРјСГ С±РёСГР»С- РіР°РSCГРёС,РsРіРµРsС-С—, РSPµРsР±С...С-РrРSPs
РІС-РrРјС-РSPёС,Рё РіСґРµРіРіР°СґР°С, РґР±±Р°РrР¶С-Рs^{В®} С,Р° СГСГС- СГСГРіСГС,РSC-
РјС-С"Р»РsСГІСГРіСґРіРІС- Р·РаСГРsР±Рё С- Р·РІР°Р¶РёС,Рё
РrРsСГС-Р»СґРSC-СГС,Сґ Р·РаСГС,РsСГІСГРІР°РSPSCІІ РіСґРsСГРµРrСГСґРё
РіСґРёСГРіРeРsСґРµРsРSPsРіРs РІРёРІРµРµРµРsРSPSCІІ С,РµСґРёС,,Р»СГРSPsРјС-РrСГ.

РёРeС-СґРSC- СґРµР°РeСГС-С—. Рј РіС-СГР»СІСґРµС"СГС,СґР°СГС-РNеРSPёРNе
РіРµСґС-РsРr РіРsРІС-РrРsРјР»СІР»Р»РsСГІС РіСґРs РІРёРіР°РrРeРё СГРµСґРNеРsР·РSPёС...,
С-РSPsРrС- Р»РµС,Р°Р»»СґРSPёС... С€РeС-СґРSPёС... СґРµР°РeСГС-РNе, СГ С,РsРјСГ
С±РёСГР»С- СГРёРSPrСґРsРјСГ РґС,С-РІРµРsСГР° - Р"Р¶РsРSCГРsРSP°,
С,РsРeСГРёС±РSPsРіРs РµРіС-РrРµСґРјР»»СґР»»СґРsРSPµРeСґРsР»С-Р·Р, Р° С,Р°РeРsР¶
СґРµР°РeСГС-С— РSP° Р»С-РeР°СґСГСґРeРёРNе Р·РаСГС-Р± Р· РµРsР·РёРSPsС,,С-Р»С-С"Сґ
С,Р° СГРёСГІС,РµРјРSPёРјРё СГРёРјРіС,РsРјР°РјРё (DRESS-СГРёРSPrСґРsРј) РіС-Рr С±Р°СГ
РіСґРёРNеРsРјСГ РіСґРµРіРіРаСґР°С,СГ РґР±±Р°РrР¶С-Рs^{В®}.

РІРeС%Рs СГ РіР°СГС-С"РSC,Р° СГРіРsСГІС,РµСґС-РіР°СґС,СґСГІСІІ СґРµР°РeСГС-С— Р·
Р±РsРeСГ С€РeС-СґРё С,Р°/Р°Р±Рs СГР»РёР·РsРІРёС... РsР±РsР»РsРSPsРe
(РІРёСґР°Р·Р·РeРsРІРNе СГС,РsРјР°С,РёС, СІРeС- С" РіС-РrРsР·СґС-Р»РёРмРё С%РsРrРs
СґРsР·РІРёС,РeСГ С,СІР¶Р¶РeРsС— РіРµРsРSPµСґР»»С-Р·РsРІР°РSPsС— СГРµСґРNеРsР·РSPsС—
С€РeС-СґРSPsС— СґРµРµРeСГС-С— (СГРёРSPrСґРsРј РґС,С-РІРµРsСГР°-Р"Р¶РsРSCГРsРSP°,
С,РsРeСГРіС±РSPёРNе РµРіС-РrРµСґРмР»»СґР»»СґРSPµРeСґРsР»С-Р· - СГРёРSPrСґРsРј
Р»РNеС"Р»»Р° Р°Р±Рs СґРµРµРeСГС-СІІ РSP° Р»С-РeР°СґСГСґРeРёРNе Р·РаСГС-Р± Р·
РµРsР·РіРsС,,С-Р»С-С"Сґ С,Р° СГРёСГІС,РµРмРSPёРјРё СГРіРмРіС,РsРјР°РмРі),
РSPµРsР±С...С-РrРSPs РІС-РrРјС-РSPёС,Рё С,РµСґРёС,,Р»СГРSPsРјС-Рr С,Р° СГСГС- С-РSC€С-
Р·РаСГРsР±Рё, Р· СІРeРёРмРі РјРsР¶Р¶ Р±СГС,Рё РіРsРІБґ™ СІР·Р°РSP° С,Р°РeР°
СґРµРµРeСГС-СІІ, С,Р° РSPµРіРNеРSPs СґРsР·РіРsС±Р°С,Рё РіСґРsСГРµРrСГСґРі

PJ PĪP°C†C-C"PSC,C-PI P· P PŸ PĭC-C†P»CĬ P±P°PĭP°C,PsPeCĤP°C,PSPsPiPs
P·P°C†C,PsC†C†PIP°PSPSCĬ C,PμCĤPĕC,,P»C†PSPsPjC-PrC† C† PrPsP·C- 14 PjPi PjPμPrC-P°PSP°
C,PμCĤPjC-PSP°P»CHPSPsPiPs PĭPμCĤC-PsPrC† PSP°PĭC-PIIPĕPIPμPrPμPSPSCĬ ($t_{1/2z}$)
C†C,P°PSPsPIPĕP»P° PĭCĤPĕP±P»PĕP·PSPs 19 PrPSC-PI. PĪPeC%oPs PĭCĤPĕPN₂PSCĬC,Ps
CĤC-CĕPμPSPSCĬ PĭCĤPs PĭCĤPĕPĭPĕPSPμPSPSCĬ C,PμCĤP°PĭC-C— PĭCĤPμPĭP°CĤP°C,PsPj
PhP±P°PrP¶C-Ps^B, PĭPsC±P°C,PsPe P»C-PeC†PIP°PSPSCĬ C-PSCĕPĕPj P·P°C†PsP±PsPj

P-C-PSPEP°Pj CḡPμPīCḡPsPrCfPeC,PēPIPSPsPiPs PIC-PeCf CḡP»C-Pr
P·P°CḡC,PsCḡPsPICḡPIP°C,Pē PμC,,PμPeC,PēPIPSC- PjPμC,PsPrPē PePsPSC,CḡP°C†PμPīC†C-C—
PīC-Pr C†P°Cḡ P»C-PeCfPIP°PSPSCḡ PīCḡPμPīP°CḡP°C,PsPj C,P° PīC-CḡP»Cḡ PNēPsPiPs
P·P°PeC-PSC†PμPSPSCḡ, PīPsPePē PePsPSC†PμPSC,CḡP°C†C-Cḡ C,PμCḡPēC,,P»CḡPSPsPjC-PrCḡ
Cḡ PīP»P°P·PjC- PeCḡPsPIC- CḡC,P°PSPsPIPēC,PēPjPμ P±C-P»CHCēPμ 0,02 PjPi/P». PμC-Pr
C†P°Cḡ C†CHPsPiPs PīPμCḡC-PsPrCḡ PḡC-PSPePē PjP°CḡC,CH PsP±PiPsPIPsCḡCḡPIP°C,Pē P·C-
CḡPIPsC—Pj P»C-PeP°CḡPμPj P±CḡPrCH-CḡPeC- PīP»P°PSPē C%PsPrPs
PīCḡPēPīPēPSPμPSPSCḡ PIPēPePsCḡPēCḡC,P°PSPSCḡ PePsPSC,CḡP°C†PμPīC†C-C— P°P±Ps
P·PjC-PSPē PjPμC,PsPrCḡ PePsPSC,CḡP°C†PμPīC†C-C—. P''C-PIC†P°C, C,P°/P°P±Ps
P±P°C,CHPeC-PI/PsPīC-PeCḡPSC-PI PrC-PIC†P°C, CḡP»C-Pr PīCḡPsC-PSC,,PsCḡPjCḡPIP°C,Pē
PīCḡPs PSPμPsP±C...C-PrPSC-CḡC,CH P·PIbḡ™ CḡP·P°C,PēCḡCḡ P· P»C-PeP°CḡPμPj,
C%PsPMēPSPs Cḡ PrC-PIC†PēPSPē, CḡPeP° PīCḡPsC...PsPrPēC,CH PeCḡCḡCḡ
P»C-PeCḡPIP°PSPSCḡ PīCḡPμPīP°CḡP°C,PsPj PḡP±P°PrPḡC-Ps^{B®}, PSP°CḡC,P°C"
PjPμPSCḡC,CḡCḡP°C†C-Cḡ. PḡPsPIPēPj PīP°C†C-C''PSC,PeP°Pj, P·PrP°C,PSPēPj
P·P°PIP°PīC-C,PSC-C,Pē, CḡP»C-Pr PīCḡPsPIPsPrPēC,Pē PePsPSCḡCḡP»CHC,P°C†C-C— P·
PīPēC,P°PSCḡ PePsPSC,CḡP°C†PμPīC†C-C— C,P° PīPsC,PμPSC†C-PNēPSPsPiPs CḡPēP·PēPeCḡ
PrP»Cḡ PīP»PsPrP°. PŸP»C-Pr CḡPsP·PiP»CḡPSCḡC,Pē PjPsPḡP»PēPIC-CḡC,CH
PSP°PīCḡP°PIP»PμPSPSCḡ PrPs PiC-PSPuPePsP»PsPiP°.

РµР°С†С-С"РSC,РeС† РSPµРsР±С...С-РrPSPs РiСґРsС-РSC,,РsСґРjС†РIP°С,Рө, С%Ps С†
СґР°Р·С- Р·Р°С,СґРөРjРeРө РiРsС†Р°С,РeС† РjРµРSC†С,СґС†Р°С†С-РNө Р°Р±Рs РiСґРө
РiС-РrРsР·СґС- РSP° РIP°РiС-С,РSC-С†С,Сґ РIPsРSP° РjР°С" РiСґРөРiРөРSPөС,Рө
РiСґРөРNөРsРj РiСґРµРiР°СґР°С,С† РґР±Р°Р°РrР¶С-Рs^В С,Р° РSPµРiР°РNөРSPs
Р·РIPµСґРSC†С,РөС†Сґ РrРs Р»С-РeР°СґСґ РrР»Сґ РiСґРsРIPµРrРµРSPSCґ С,РµС†С,С† РSP°
РIP°РiС-С,РSC-С†С,Сґ, Р° С† РIPөРiР°РrРeС† РiРsР·РөС,РөРIPSPsРiРs СґРµР·С†Р»С,Р°С,С†
С†СґРsРiРs С,РµС†С,С† Р»С-РeР°Сґ С- РiР°С†С-С"РSC,РeР° РiРsРIPөРSPSC-
РsР±РiРsРIPsСґРөС,Рө СґРөР·РөРө РrР»Сґ РIP°РiС-С,РSPsС†С,С-. Р†С†РSC†С"
С-РjРsРIC-СґРSC-С†С,Сґ С,РsРiРs, С%Ps СөРIPөРrРeРµ Р·РSPөР¶РµРSPSCґ СґС-РIPSCґ
С,РµСґРөС,,Р»С†РSPsРjС-РrС† РI РeСґРsРIC- СөР»СґС...РsРj Р·Р°С†С,РsС†С†РIP°РSPSCґ
РiСґРsС†РµРrСґРө РiСґРөС†РeРsСґРµРSPsРiРs РIPөРIPµРrРµРSPSCґ, РsРiРөС†Р°РSPsС-
РSPөР¶С†Рµ, РiСґРө РiРµСґСөРөС... РsР·РSP°РeР°С... Р·Р°С,СґРөРjРeРө
РjРµРSC†С,СґС†Р°С-С- РjРsР¶Рµ Р·РjРµРSCөРөС,Рө СґРөР·РөРө РrР»Сґ РiР»РsРrР°.

Р-С-РSPeР°Рj, СґРeС- РsС,СґРөРjС†СґС,Сґ Р»С-РeС†РIP°РSPSCґ
С,РµСґРөС,,Р»С†РSPsРjС-РrРsРj С,Р° Р±Р°Р¶Р°СґС,Сґ Р·Р°РIP°РiС-С,РSC-С,Рө,
РSPµРsР±С...С-РrPSPs РIC-РrРjС-РSPөС,Рө РiСґРµРiР°СґР°С,, С- РiСґРө С†СґРsРjС†
СґРµРsРjРµРSPrРsРIP°РSPs Р·Р°С†С,РsС†С†РIP°С,Рө РiСґРsС†РµРrСґСґ
РiСґРөС†РeРsСґРµРSPsРiРs РIPөРIPµРrРµРSPSCґ Р· РjРµС,РsСґ Р±С-Р»СґСө
СөРIPөРrРeРsРiРs РrРsС†СґРiРSPµРSPSCґ РeРsРSC†РµРSC,СґР°С†С-РNө РSPөР¶С†Рµ
0,02 РjРi/Р» (РrРөРI. РSPөР¶С†Рµ).

РiРeС%Ps РiСґРsС†РµРrСґСґ РiСґРөС†РeРsСґРµРSPsРiРs РIPөРIPµРrРµРSPSCґ РSPµ
Р·Р°С†С,РsС†РsРIC†РIP°С,Рө, РjРsР¶РSP° РsС†С-РeС†РIP°С,Рө, С%Ps СґС-РIPSC-
С,РµСґРөС,,Р»С†РSPsРjС-РrС† С† РiР»Р°Р·РjС- РeСґРsРIC- Р±С†РrС†С,Сґ
Р·Р°Р»Р»өРөС,РөС†Сґ РIPөС%Рµ 0,02 РjРi/Р» РiСґРsС,СґРiРsРj С†
С†РµРµРrРsРjС†Р B B B B B B B B B B 8 РjС-С†СґС†С-РI, РiСґРsС,Рµ РrРµСґРөРj
РiР°С†С-С"РSC,Р°Рj РjРsР¶Рµ Р±С†С,Рө РiРsС,СґС-Р±РSPs РrРs 2 СґРsРeС-РI РrР»Сґ
РrРsС†СґРiРSPµРSPSCґ СґС-РIPSCґ РiР»Р°Р·РjРsРIPsС- РeРsРSC†РµРSC,СґР°С†С-С-
РSPөР¶С†Рµ 0,02 РjРi/Р». Рj Р·РIөґTM СґР·РeС† Р· С†РөРj РSPµРsР±С...С-РrPSPs
РIPөР·РSP°С†РөС,Рө РeРsРSC†РµРSC,СґР°С†С-Сґ С,РµСґРөС,,Р»С†РSPsРjС-РrС† С†
РiР»Р°Р·РjС- РeСґРsРIC-, РiРµСґСө РSC-Р¶ Р¶С-РSPeР° СґРsР·РiРsС†РSPµ С†РiСґРsР±Рө
Р·Р°РIP°РiС-С,РSC-С,Рө. РµС-С†Р»Сґ С,РsРiРs, СґРe Р±С†РrРµ РIPөР·РSP°С†РµРSPs
РeРsРSC†РµРSC,СґР°С†С-Сґ С,РµСґРөС,,Р»С†РSPsРjС-РrС† РI РiР»Р°Р·РjС- РeСґРsРIC-
РSPөР¶С†Рµ 0,02 РjРi/Р», РNөРsРiРs РiР»Р°Р·РjРsРIC† РeРsРSC†РµРSC,СґР°С†С-Сґ
РiРsС,СґС-Р±РSPs Р±С†РrРµ РIPөР·РSP°С†РөС,Рө РiРsРIC,РsСґРSPs С†РµСґРµР·
С-РSC,РµСґРIP°Р» С†Р°С†С† С,СґРөРIP°Р»С-С†С,Сґ РSPµ
РjРµРSCөРµР B B B B B B B B B B B B B B B B 14 РrРSC-РI.

РiРeС%Ps СґРµР·С†Р»С,Р°С,Рө РsР±РsС... РrРsС†Р»С-РrР¶РµРSCґ РiР»Р°Р·РjРsРIPөС...
РeРsРSC†РµРSC,СґР°С†С-РNө РSPөР¶С†Рµ 0,02 РjРi/Р», РSC-СґРeРsРiРs СґРөР·РөРө РrР»Сґ
РiР»РsРrР° РSPµ РsС†С-РeС†С"С,СґС†Сґ.

Р"Р»Сґ РsС,СґРөРjР°РSPSCґ РrРsРrР°С,РeРsРIPsС- С-РSC,,РsСґРjР°С†С-С- С%PsРrРs
С,РµС†С,С†РIP°РSPSCґ Р·СґР°Р·РeР° РeСґРsРIC- РrР»Сґ РIPөР·РSP°С†РµРSPSCґ С†СґРsРiРs
РiРsРeР°Р·РSPөРeР° С†Р»С-Рr Р·РIPµСґС,Р°С,РөС†Сґ РrРs РIP»Р°С†РSPөРeР°
СґРµС"С†С,СґР°С†С-РNөРSPsРiРs РiРsС†РIC-РrС†РµРSPSCґ Р°Р±Рs РrРs РNөРsРiРs
РjС-С†С†РµРIPөС... РiСґРµРrС†С,Р°РIPSPөРeС-РI (РrРөРI. СґРsР·РrС-Р»
В«РөСґРsР±РSPөРeВ»).

РµСґРsС†РµРrСґСґ РiСґРөС†РeРsСґРµРSPsРiРs РIPөРIPµРrРµРSPSCґ

$P-PrP^{\circ}C, PSC-Cl^{\circ}C, CH_3 PIPiP \gg P\ddot{e}PIP^{\circ}C, P\ddot{e} PSP^{\circ} C \in PIP\ddot{e}PrPeC-Cl^{\circ}C, CH_3 C\overline{H}P_{\mu}P^{\circ}PeC\uparrow C-C- P\ddot{e}C\overline{H}P\ddot{e}$
 $PeP_{\mu}C\overline{H}C\acute{z}PIP^{\circ}PSPSC- P^{\circ}PIC, PsC, C\overline{H}P^{\circ}PSC\overline{I}P\ddot{e}PsC\overline{H}C, PsPj P^{\circ}P\pm Ps C-PSC\in P\ddot{e}PjP\ddot{e}$
 $PjP_{\mu}C...P^{\circ}PSC-P\cdot PjP^{\circ}PjP\ddot{e}.$

P'PīP»PēPI PīCḡPμPīP°CḡP°C,Cr PḡP±P°PrP¶C-Ps^{B®} PSP° P·PrP°C,PSC-CÍC,CH
 PePμCḡCrPīP°C,Pē C,CḡP°PSCÍPīPsCḡC,PSPēPjPē P·P°CÍPsP±P°PjPē C±Pē PīCḡP°C†CḡPīP°C,Pē
 P· C-PSCēPēPjPē PjPμC...P°PSC-P·PjP°PjPē PIC-PrCÍCrC,PSC-PNē C±Pē PSPμP·PSP°C±PSPēPNē. PJ
 CḡP°P·C- CḡPsP·PīPēC,PeCr C,P°PePēC... PīPsP±C-C±PSPēC... CḡPμP°PeC†C-PNē, CīPe
 P·P°PīP°PjPsCḡPsC±PμPSPSCī, C%Ps P±CrP»Ps P·P°CḡPμC"ÍC,CḡPsPīP°PSPμ PSP° C,P»C-
 P·P°CÍC,PscÍCrPīP°PSPSCī P»PμC,,P»CrPSPsPjC-PrCr (CÍPīPsP»CrPePē-
 PīPsPīPμCḡPμPrPSPēPeP° C,PμCḡPēC,,P»CrPSPsPjC-PrCr), PjPsP¶Pμ
 PīPsPīC-CḡCēCrPīP°C,PēCÍCī P·PrP°C,PSC-CÍC,CH PīP°C†C-C"PSC,P° PrPs
 PePsPSC†PμPSC,CḡP°C†C-C— CrPīP°PīPē C,P° PSP°P»PμP¶PSPsC— CēPīPēPrPePsCÍC,C-
 CḡPμP°PeC†C-C—. PJ C,P°PePēC... PīPēPīP°PrPeP°C... PīP°C†C-C"PSC,P°Pj CÍP»C-Pr
 CrC,CḡPēPjCrPīP°C,PēCÍCī PIC-Pr PePμCḡCrPīP°PSPSCī P°PIC,PsC,CḡP°PSCÍPīPsCḡC,PsPj
 C,P° CḡPsP±PsC,Pē P· C-PSCēPēPjPē PjPμC...P°PSC-P·PjP°PjPē.

PŸPīPsCÍC-P± P·P°CÍC,PsCÍC¿PīP°PSPSCī C,P° PrPsP·Pē.

PjCÍC- PSPμPīPēPePsCḡPēCÍC,P°PSC- P»C-PeP°CḡCÍCHPeC- PīCḡPμPīP°CḡP°C,Pē P°P±Ps
 C—C...PSC- P·P°P»PēCēPePē PīC-PrP»CīPīP°CḡC,CH CrC,PēP»C-P·P°C†C-C—
 PIC-PrPīPsPIC-PrPSPs PrPs PjC-CÍC†PμPīPēC... PīPēPjPsPi.

P>C-PeCrPīP°PSPSCī CÍP»C-Pr CḡPsP·PīPsC±PēPSP°C,Pē C- PīCḡPsPīPsPrPēC,Pē PīC-Pr
 PSP°PīP»CīPrPsPj P»C-PeP°CḡCī, CīPePēPNē PjP°C" PrPsCÍPIC-Pr P»C-PeCrPīP°PSPSCī
 CḡPsP·CÍC-CīPSPsPiPs CÍPeP»PμCḡPsP·Cr.

P"PsP·CrPīP°PSPSCī.

P"PsCḡPsCÍP»C-

P PμPePsPjPμPSPPrPsPīP°PSP° PrPsP·P° PḡP±P°PrP¶C-Ps^{B®} B CÍC,P°PSPsPīPēC,CH 14 PjPi
 PīPμCḡPsCḡP°P»CHPSPs PsPrPēPS CḡP°P· PSP° PrPsP±Cr.

P"C-C,Pē (PIC-PePsPj PIC-Pr 10 CḡPsPeC-PI)

P"P»Cī PrC-C,PμPNē (PIC-PePsPj PIC-Pr 10 CḡPsPeC-PI) CḡPμPePsPjPμPSPPrPsPīP°PSP° PrPsP·P°
 P·P°P»PμP¶PēC,CH PIC-Pr PjP°CÍPē C,C-P»P°:

-B B B B B B B B B PrC-C,Pē P· PjP°CÍPsCḡ C,C-P»P° > 40 PePi: 14 PjPi PsPrPēPS CḡP°P· PSP°
 PrPsP±Cr,

-B B B B B B B B B PrC-C,Pē P· PjP°CÍPsCḡ C,C-P»P° ≤ 40 PePi: 7 PjPi PsPrPēPS CḡP°P· PSP°
 PrPsP±Cr,

P"C-C,CīPj, CīPeC- PrPsCÍCīPīP»Pē CÍC,P°P±C-P»CHPSPsC— PjP°CÍPē C,C-P»P° PīPsPSP°Pr
 40 PePi, CÍP»C-Pr PīPμCḡPμPNēC,Pē PSP° C,P°P±P»PμC,PeCr 14 PjPi 1 CḡP°P· PSP° PrPsP±Cr.

PŸP°P±P»PμC,PePē PSPμPsP±C...C-PrPSPs PePsPIC,P°C,Pē C†C-P»PēPjPē, P·P°PīPēPīP°CḡC±Pē
 PSPμPīPμP»PēPePsCḡ PeC-P»CHPeC-CÍC,Cḡ PīPsPrPē. PŸP°P±P»PμC,PePē, PīPeCḡPēC,C-
 PīP»C-PīPePsPīPsCḡ PsP±PsP»PsPSPePsCḡ, PjPsP¶PSP° PīCḡPēPNēPjP°C,Pē PSPμP·P°P»PμP¶PSPs
 PIC-Pr PīCḡPēPNēPsPjCr C—P¶C-.

PḡCÍPsP±P»PēPIC- PīCḡC¿PīPē PīP°C†C-C"PSC,C-PI.

*PμP°C†C-C''PSC,Pë P»C-C,PSCHbPsPiPs PIC-PeCé. PhP±P°PrP¶C-Ps^{B®} PSpμPsP±C...C-PrPSPs P·
PsP±PμC¶PμP¶PSC-C†C,C¶ PiC¶PëP·PSP°C±P°C,Pë PiP°C†C-C''PSC,P°Pj PIC-PePsPj
PIC-PrB B B B 65 C¶PsPeC-PI C±PμC¶PμP· PSpμPrPsC†C,P°C,PSC-C†C,C¶ PrP°PSPëC...
C%oPsPrPs P±PμP·PiPμC±PSPsC†C,C- C,P° PμC,,PμPeC,PëPIPSPsC†C,C-
P·P°C†C,PsC†C†PIP°PSPSC¶ PiC¶PμPiP°C¶P°C,C† C†C-PMë PiPsPiC†P»C¶C†C-C—
PiP°C†C-C''PSC,C-PI.*

*PkPëC¶PePsPIP° PSpμPrPsC†C,P°C,PSC-C†C,C¶. P¶PsC¶PμPeC†C-C¶ PrPsP·Pë PrP»C¶
PiP°C†C-C''PSC,C-PI P· P»PμPiPePëPj, PiPsPjC-C¶PSPëPj P°P±Ps C,C¶P¶PePëPj
PiPsC¶C†C¶PμPSPSC¶Pj C,,C†PSPeC†C-C— PSPëC¶PsPe, C¶PeC- PSpμ PsC,C¶PëPjC†C¶C,C¶
PrC-P°P»C-P·, PSpμ PiPsC,C¶C-P±PSP°.*

*PμP°C†C-C''PSC,Pë P· C,C¶P¶PePëPj PiPsC¶C†C¶PμPSPSC¶Pj C,,C†PSPeC†C-C— PSPëC¶PsPe,
C¶PeC- PsC,C¶PëPjC†C¶C,C¶ PrC-P°P»C-P·, PSpμ PsC†C-PSC¶PIP°P»PëC†C¶.
P¶PμC¶PëC,,P»C†PSPsPjC-Pr PiC¶PsC,PëPiPsPeP°P·P°PSPëPNë C†C-PMë PiPsPiC†P»C¶C†C-C—
PiP°C†C-C''PSC,C-PI (PrPëPI. C¶PsP·PrC-P» B«PμC¶PsC,PëPiPsPeP°P·P°PSPSC¶B»).*

*PμPμC±C-PSPePsPIP° PSpμPrPsC†C,P°C,PSC-C†C,C¶. P''P»C¶ PiP°C†C-C''PSC,C-PI P·
P»PμPiPePëPj P°P±Ps PiPsPjC-C¶PSPëPj PiPsC¶C†C¶PμPSPSC¶Pj C,,C†PSPeC†C-C—
PiPμC±C-PSPePë PePsC¶PμPeC†C-C¶ PrPsP·Pë PiC¶PμPiP°C¶P°C,C† PSpμ PiPsC,C¶C-P±PSP°.
P¶PμC¶PëC,,P»C†PSPsPjC-Pr PiC¶PsC,PëPiPsPeP°P·P°PSPëPNë PiP°C†C-C''PSC,P°Pj P·
C,C¶P¶PePëPj PiPsC¶C†C¶PμPSPSC¶Pj C,,C†PSPeC†C-C— PiPμC±C-PSPePë (PrPëPI.
C¶PsP·PrC-P» B«PμC¶PsC,PëPiPsPeP°P·P°PSPSC¶B»).*

P''C-C,Pë.

*P'PμP·PiPμC±PSC-C†C,C¶ C,P° PμC,,PμPeC,PëPIPSC-C†C,C¶ P·P°C†C,PsC†C†PIP°PSPSC¶
PiC¶PμPiP°C¶P°C,C† PhP±P°PrP¶C-Ps^{B®} PrC-C,C¶Pj PIC-PePsPj PrPs 10 C¶PsPeC-PI PSP°
PrP°PSPëPNë C±P°C† PSpμ PIC†C,P°PSPsPIP»PμPSP°. P''P°PSC- PIC-PrC†C†C,PSC-.*

PμPμC¶PμPrPsP·CéPIP°PSPSC¶.

*P¶PëPjPiC,PsPjPë. P''PsC†PIC-Pr PiPμC¶PμPrPsP·C†PIP°PSPSC¶
C,PμC¶PëC,,P»C†PSPsPjC-PrC† P°P±Ps P·C†PjPsPIP»PμPSPsC— C†PëPj
PiC¶PμPiP°C¶P°C,PsPj C-PSC,PsPeC†PëPeP°C†C-C— P»C¶PrPëPSPë
PIC-PrC†C†C,PSC-PMë. P¶PμC¶PëC,,P»C†PSPsPjC-Pr C† PrPsP·C- 70 PjPi PSP° PrPsP±C†
PiC¶PëP·PSP°C±P°PIC†C¶ PiC¶PsC,C¶PiPsPj 14 PrPSC-PI P·PrPsC¶PsPIPëPj
PrPsP±C¶PsPIPsP»C¶C†C¶Pj. PμPsP±C-C±PSC- C¶PμP°PeC†C-C—
C†P·PiPsPrP¶C†PIP°P»PëC†C¶ C-P· PiC¶PsC,,C-P»PμPj P±PμP·PiPμC±PSPsC†C,C-
C,PμC¶PëC,,P»C†PSPsPjC-PrC† C† PiP°C†C-C''PSC,C-PI P· C¶PsP·C†C-C¶PSPëPj
C†PeP»PμC¶PsP·PsPj.*

*P>C-PeC†PIP°PSPSC¶. PμC¶Pë P·PSP°C±C†C%oPsPjC† PiPμC¶PμPrPsP·C†PIP°PSPSC- P°P±Ps
PiC¶Pë PSP°C¶PIPSPsC†C,C- PsP·PSP°Pe C,PsPeC†PëC±PSPsC†C,C-
C¶PμPePsPjPμSPPrC†C,C¶C†C¶ PiC¶PëPNëPsPj C...PsP»PμC†C,PëC¶P°PjC-PSC† P°P±Ps
P°PeC,PëPIPSPIP°PSPsPiPs PIC†PiC-P»P»C¶ PrP»C¶ PiC¶PëC†PePsC¶PμPSPSC¶
PIPëPIPμPrPμPSPSC¶ PiC¶PμPiP°C¶P°C,C†. P PμPePsPjPμSPPrPsPIP°PSP° PiC¶PsC†PμPrC†C¶P°
PIPëPIPμPrPμPSPSC¶ PiC¶PμPiP°C¶P°C,C† PiPsP»C¶PiP°C'' C† P·P°C†C,PsC†C†PIP°PSPSC-
C...PsP»PμC†C,PëC¶P°PjC-PSC† C† PrPsP·C-B 8 Pi C,C¶PëC±C- PSP° PrPsP±C†*

PĭCĥPsC,CĭPiPsPj 11 PrPSC-PI. PĭPeC%Ps C†Cĭ CĭC...PμPjP° PĭPsPiP°PSPs
 PĭPμCĥPμPSPsCĭPĕC,CĥCĭCĭ PĭP°C†C-C" PSC,PsPj, PjPsP¶PSP° P·P°CĭC,PsCĭPsPICrPIP°C,Pĕ
 C...PsP»PμCĭC,PĕCĥP°PjC-PS Cĭ PrPsP·C- 4 Pi C,CĥPĕC†C- PSP° PrPsP±Cĭ PĭCĥPsC,CĭPiPsPj 11
 PrPSC-PI. PĭPe P°P»CĥC,PμCĥPSP°C,PĕPICr, CĭPeC%Ps C...PsP»PμCĭC,PĕCĥP°PjC-PS
 PSPμPrPsCĭC,CĭPiPSPĕPNĕ, C,P°PePsP¶ PjPsP¶PSP° P·P°CĭC,PsCĭPsPICrPIP°C,Pĕ
 P°PeC,PĕPIPsPIP°PSPμ PICrPiC-P»P»Cĭ Cĭ PrPsP·C- 50 Pi PrPIC-C†C- PSP° PrPsP±Cĭ
 PĭCĥPsC,CĭPiPsPj 11 PrPSC-PI. PĥCĥC-Pj C,PsPiPs, CĭPeC%Ps C†Pμ PSPμPsP±C...C-PrPSPs P·
 PĭCĥPĕC†PĕPS PĭPμCĥPμPSPsCĭPĕPjPsCĭC,C-, P·P°CĭC,PsCĭCĭPIP°PSPSCĭ
 C...PsP»PμCĭC,PĕCĥP°PjC-PSCr P°P±Ps P°PeC,PĕPIPsPIP°PSPsPiPs PICrPiC-P»P»Cĭ PSPμ
 PsP±PsPiPĕĥ™ CĭP·PePsPIPs PjP°C" PIPĕPePsPSCrPIP°C,PĕCĭCĭ PĭCĥPsC,CĭPiPsPj
 PĭPsCĭP»C-PrPsPIPSPĕC... 11 PrPSC-PI (PrPĕPI. CĥPsP·PrC-P»
 B«PαP°CĥPjP°PePsPeC-PSPμC,PĕPeP°B»).

PμPsP±C-C†PSC- CĥPμP°PeC†C-C—.

P PμP·CĥPjPμ PĭCĥPsC,,C-P»Cĥ P±PμP·PĭPμC†PSPsCĭC,C-. PκP°PNĕP±C-P»CĥCĕ
 C†P°CĭC,PĕPjPĕ PĭPsP±C-C†PSPĕPjPĕ CĥPμP°PeC†C-CĭPjPĕ PĭCĥPĕ PĭCĥPĕPNĕPsPjC-
 C,PμCĥPĕC,,P»CĭPSPsPjC-PrCĭ (Cĭ PrPsP·CĭPIP°PSPSC- 7 PjPi C,P° 14 PjPi) P±CĭP»Pĕ:
 PiPsP»PsPIPSPĕPNĕ P±C-P»Cĥ (17,8 %, 15,7 %), PrC-P°CĥPμCĭ (13,1 %, 13,6 %),
 PĭC-PrPIPĕC%PμPSPSCĭ CĥC-PIPSCĭ PĥP·PŸ (13 %, 15 %), PSCĭPrPsC,P° (8 %, 10,7 %) C,P°
 P°P»PsPĭPμC†C-Cĭ (9,8 %, 13,5 %). PĭPe PĭCĥP°PIPĕP»Ps, PiPsP»PsPIPSPĕPNĕ P±C-P»Cĥ,
 PrC-P°CĥPμCĭ, PSCĭPrPsC,P° C,P° P°P»PsPĭPμC†C-Cĭ PjP°P»Pĕ P»PμPiPeCĭ P°P±Ps
 PĭPsPjC-CĥPSCrB C,CĭP¶PeC-CĭC,Cĥ, P±CĭP»Pĕ C,CĥP°PSP·PĕC,PsCĥPSPĕPjPĕ C-
 PSPμC†P°CĭC,Ps PĭCĥPĕP·PIPsPrPĕP»Pĕ PrPs PIC-PrPjC-PSPĕ PĭCĥPμPĭP°CĥP°C,Cĭ.

PŸPμCĥPĕC,,P»CĭPSPsPjC-Pr C" PsCĭPSPsPIPSPĕPj PjPμC,P°P±PsP»C-C,PsPj
 P»PμC,,P»CĭPSPsPjC-PrCĭ. PμCĥPsC,,C-P»Cĥ P±PμP·PĭPμC†PSPsCĭC,C-
 P·P°CĭC,PsCĭCĭPIP°PSPSCĭ P»PμC,,P»CĭPSPsPjC-PrCĭ Cĭ PĭP°C†C-C" PSC,C-PI P·
 CĥPμPIPjP°C,PsC—PrPSPĕPj P°CĥC,CĥPĕC,PsPj P°P±Ps PĭCĭPsCĥC-P°C,PĕC†PSPĕPj
 P°CĥC,CĥPĕC,PsPj PjPsP¶Pμ PIC-PrPĭPsPIC-PrP°C,Pĕ C,P°PePsPjCĭ Cĭ PĭP°C†C-C" PSC,C-PI P·
 P PŸ PĭCĥPĕ PĭCĥPĕP·PSP°C†PμPSPSC- C,PμCĥPĕC,,P»CĭPSPsPjC-PrCĭ.

PŸP°P±P»PĕC†PSPĕPNĕ PĭPμCĥPμP»C-Pe PĭPsP±C-C†PSPĕC... CĥPμP°PeC†C-PNĕ. P'CĭCĥPsPiPs
 2267 PĭP°C†C-C" PSC,C-PI PĭCĥPĕPNĕPjP°P»Pĕ C,PμCĥPĕC,,P»CĭPSPsPjC-Pr (1155 Bĥ" PI
 PrPsP·C-B 7 PjPi C- 1112 Bĥ" PI PrPsP·C- 14 PjPi) PsPrPĕPS CĥP°P· PSP° PrPsP±Cĭ P·
 PjPμPrC-P°PSPsCĥ C,CĥPĕPIP°P»PsCĭC,C- P»C-PeCĭPIP°PSPSCĭ 672 PrPSC- Cĭ CĥP°PjPeP°C...
 4 PĭP»P°C†PμP±Ps-PePsPSC,CĥPsP»CĥPsPIP°PSPĕC... PrPsCĭP»C-PrP¶PμPSCĥ (PrPμ 1045 C-
 1002 PĭP°C†C-C" PSC,Pĕ PĭCĥPĕPNĕPjP°P»Pĕ PĭCĥPμPĭP°CĥP°C, Cĭ PrPsP·P°C... 7 PjPi C- 14 PjPi
 PIC-PrPĭPsPIC-PrPSPs) C,P° PsPrPSPsPiPs PrPsCĭP»C-PrP¶PμPSPSCĭ P· P°PeC,PĕPIPsPĕPj
 PePsPSC,CĥPsP»PμPj (PĭPs 110 PĭP°C†C-C" PSC,C-PI Cĭ PePsP¶PSC-PNĕ PĭCĥCĭPĭC-
 P»C-PeCĭPIP°PSPSCĭ C,PμCĥPĕC,,P»CĭPSPsPjC-PrPsPj) P·P° CĭC†P°CĭC,Cĥ PĭP°C†C-C" PSC,C-PI
 P· CĥPμC†PĕPrPĕPIPSPĕPjPĕ C,,PsCĥPjP°PjPĕ P PŸ (CĥPμC†PĕPrPĕPICrCĥC†PĕPNĕ
 CĥPsP·CĭC-CĭPSPĕPNĕ CĭPeP»PμCĥPsP·, P P PŸ).

Pj C,P°P±P»PĕC†C- 2 PSP°PIPμPrPμPSPs PĭPsP±C-C†PSC- CĥPμP°PeC†C-C—,
 P·P°CĥPμC" CĭC,CĥPsPIP°PSC- Cĭ PrPsCĥPsCĭP»PĕC... PĭP°C†C-C" PSC,C-PI, CĭPeC-
 PĭCĥPĕPNĕPjP°P»Pĕ C,PμCĥPĕC,,P»CĭPSPsPjC-Pr Cĭ PrPsP·P°C... 7 PjPi P°P±Ps 14 PjPi, Cĭ
 CĥP°PjPeP°C... PĭP»P°C†PμP±Ps-PePsPSC,CĥPsP»CĥPsPIP°PSPĕC... PrPsCĭP»C-PrP¶PμPSCĥ
 PĭCĥPμPĭP°CĥP°C,Cĭ PĥP±P°PrP¶C-Ps^{B®} P·P° CĭC†P°CĭC,Cĥ PrPsCĥPsCĭP»PĕC...

$$P \dot{y} P^{\circ} P \pm P \gg P \ddot{e} C \dagger C \downarrow 3$$
$$P\hbar P \gg P_s P_i P_\mu C \dagger C - C\downarrow. P\hbar P \gg P_s P_i P_\mu C \dagger C - C\downarrow \text{ Cr } PIP\ddot{e}PiP \gg C\downarrow PrC - \ddot{P}iPsC, PsPSC \epsilon P^\circ PSPSC\downarrow$$

*P'PiP»PëPI PSP° P°CĤC,PμCĤC-P°P»CHBPSPëPNē C,PëCĬPe. PJ C...PsPrC- PiP»P°C†PμP±Ps-
PePsPSC,CĤPsP»CHBPPIP°PSPëC... PrPsCĬP»C-PrP¶PμPSCĤ P·P° C†C‡P°CĬC,CĤ
PrPsCĤPsCĬP»PëC... PiP°C†C-C''PSC,C-PI P±C†P»Ps PIPëCĬPIP»PμPSPs PSP°CĬC,C†PiPSPμ:*

- CĬPëCĬC,PSP»C-C‡PSPëPNē P°CĤC,PμCĤC-P°P»CHBPSPëPNē C,PëCĬPe P±C†PI > 140
PjPj CĤC,. CĬC,. C† 19,9 % PiP°C†C-C''PSC,C-PI, CĬPeC- PsC,CĤPëPjC†PIP°P»Pë
C,PμCĤPëC,,P»C†PSPsPjC-Pr C† PrPsP·C- 14 PjPi/PrPsP±C†, PiPsCĤC-PIPSĬPSPs P· 15,5 %
PiP°C†C-C''PSC,C-PI, CĬPeC- PsC,CĤPëPjC†PIP°P»Pë PiP»P°C†PμP±Ps;

- CĬPëCĬC,PSP»C-C‡PSPëPNē P°CĤC,PμCĤC-P°P»CHBPSPëPNē C,PëCĬPe P±C†PI > 160
PjPj CĤC,. CĬC,. C† 3,8 % PiP°C†C-C''PSC,C-PI, CĬPeC- PsC,CĤPëPjC†PIP°P»Pë
C,PμCĤPëC,,P»C†PSPsPjC-Pr C† PrPsP·C- 14 PjPi/PrPsP±C†, PiPsCĤC-PIPSĬPSPs P· 2,0 %
PiP°C†C-C''PSC,C-PI, CĬPeC- PsC,CĤPëPjC†PIP°P»Pë PiP»P°C†PμP±Ps;

- PrC-P°CĬC,PSP»C-C‡PSPëPNē P°CĤC,PμCĤC-P°P»CHBPSPëPNē C,PëCĬPe P±C†PI > 90
PjPj CĤC,. CĬC,. C† 21,4 % PiP°C†C-C''PSC,C-PI, CĬPeC- PsC,CĤPëPjC†PIP°P»Pë
C,PμCĤPëC,,P»C†PSPsPjC-Pr C† PrPsP·C- 14 PjPi/PrPsP±C†, PiPsCĤC-PIPSĬPSPs P· 13,6 %
PiP°C†C-C''PSC,C-PI, CĬPeC- PsC,CĤPëPjC†PIP°P»Pë PiP»P°C†PμP±Ps.

*P†PSC,,PμPeC†C-C—. PJ PiP»P°C†PμP±Ps-PePsPSC,CĤPsP»CHBPPIP°PSPëC...
PrPsCĬP»C-PrP¶PμPSPSCĬC... P·P° C†C‡P°CĬC,CĤ PrPsCĤPsCĬP»PëC... PiP°C†C-C''PSC,C-PI
PSPμ CĬPiPsCĬC,PμCĤC-PiP°P»PsCĬCĬ P·CĤPsCĬC,P°PSPSCĬ C‡P°CĬC,PSc,Pë
CĬPμCĤPNēPSP·PSPëC... C-PSC,,PμPeC†C-PNē PiCĤPë P·P°CĬC,PScC†C†PIP°PSPSC-
C,PμCĤPëC,,P»C†PSPsPjC-PrC† 14 PjPi (2,7 %) PiPsCĤC-PIPSĬPSPs P· PiP»P°C†PμP±Ps (2,2 %).
PŸPμCĤPNēPSP·PSC- PsPiPsCĤC,C†PSC-CĬC,PëC‡PSC- C-PSC,,PμPeC†C-C— PIPëPSPëPeP»Pë C†
0,2 % PiP°C†C-C''PSC,C-PI C† PePsP¶PSC-PNē PiCĤC†PiC-. PJ
PiC-CĬP»CĬCĤPμC''CĬC,CĤP°C†C-PNēPSPëPNē PiPμCĤC-PsPr PiPsPIC-PrPsPjP»CĬP»PsCĬCĬ
PiCĤPs PIPëPiP°PrPePë C,CĬP¶PePëC... C-PSC,,PμPeC†C-PNē, PI C,PSPjC† C‡PëCĬP»C-
CĬPμPiCĬPëCĬC†, CĬPePëPNē C-PSPsPrC- P±C†PI P»PμC,P°P»CHBPSPëPj.*

*P'PiP»PëPI PSP° PeCĤPsPIPsC,PIPsCĤPμPSPSCĬ. PJ C...PsPrC- PiP»P°C†PμP±Ps-
PePsPSC,CĤPsP»CHBPPIP°PSPëC... PrPsCĬP»C-PrP¶PμPSCĤ P·P° C†C‡P°CĬC,CĤ
PrPsCĤPsCĬP»PëC... PiP°C†C-C''PSC,C-PI PSP° C,P»C- P·P°CĬC,PScC†C†PIP°PSPSCĬ
PiCĤPμPiP°CĤP°C,C† PhP±P°PrP¶C-Ps^{B®} CĬPiPsCĬC,PμCĤC-PiP°P»PsCĬCĬ P·PSPëP¶PμPSPSCĬ
PeC-P»CHPePsCĬC,C- P»PμPNēPePsC†PëC,C-PI C† PeCĤPsPIC- (PI CĬPμCĤPμPrPSCĤPsPjC†
PSP°B B < 15 % PIC-Pr PiPsC‡P°C,PePsPIPëC... CĤC-PIPSĬ-PI, PiPμCĤPμPiP°P¶PSPs P·P°
CĤP°C...C†PSPsPe P·PSPëP¶PμPSPSCĬ CĤC-PIPSĬ-PI PSPμPNēC,CĤPsC,,C-P»C-PI C,P°
P»C-PjC,,PSc†PëC,C-PI), C...PsC‡P° C† PrPμCĬPePëC... PiP°C†C-C''PSC,C-PI
PIC-PrP·PSP°C‡P°P»PsCĬCĬ P±C-P»CHC€ PIPëCĤP°P¶PμPSPμ P·PSPëP¶PμPSPSCĬ C†CHPsPiPs
PiPsPeP°P·PSPëPeP°. PiPμ P·PSPëP¶PμPSPSCĬ CĬPμCĤPμPrPSC-C... CĤC-PIPSĬ-PI
P»PμPNēPePsC†PëC,C-PI PiPsCĤC-PIPSĬPSPs P· PiPsC‡P°C,PePsPIPëPjPë
P·PSP°C‡PμPSPSCĬPjPë PIC-PrP±C†PIP°P»PsCĬCĬ PiC-Pr C‡P°CĬ PiPμCĤC€PëC... 6
C,PëP¶PSC-PI P»C-PeC†PIP°PSPSCĬ PiCĤPμPiP°CĤP°C,PSPj, PiC-CĬP»CĬ C‡PsPiPs P· C‡P°CĬPsPj
CĬC,P°P±C-P»C-P·C†PIP°P»PsCĬCĬ PiCĤPë PiCĤPsPrPsPIP¶PμPSPSC- PiCĤPëPNēPjC†
PiCĤPμPiP°CĤP°C,C†, P°P»Pμ PSP° P±C-P»CHC€ PSPëP·CHPePëC... CĤC-PIPSĬC... (PjPμPSC€
PSC-P¶PSP° 15 % PSPëP¶C‡Pμ PIC-Pr PIPëC...C-PrPSPëC... CĤC-PIPSĬ-PI). P'PiP»PëPI PSP°
PIPjC-CĬC, PμCĤPëC,CĤPsC†PëC,C-PI (< 2 %) C- C,CĤPsPjP±PsC†PëC,C-PI (< 10 %) P±C†PI
PjPμPSC€ PIPëCĤP°P¶PμPSPëPNē.*

*PμPμCĤPëC,,PμCĤPëC‡PSP° PSPμPNēCĤPsPiP°C,C-CĬ. PJ C...PsPrC- PiP»P°C†PμP±Ps-
PePsPSC,CĤPsP»CHBPPIP°PSPëC... PrPsCĬP»C-PrP¶PμPSCĤ P·P° C†C‡P°CĬC,CĤ
PrPsCĤPsCĬP»PëC... C† PiP°C†C-C''PSC,C-PI, CĬPeC- PiCĤPëPNēPjP°P»Pë*

C, P_μCT_μP_μC,, P»C_μPSPsPjC-Pr, C_μP°C_μC, C-C_μP_μ, PSC-P_μ C_μ P_μP°C_μC-C" PSC, C-PI, C_μP_μC-
P_μCT_μP_μPN_μPjP°P»P_μ P_μP»P°C_μP_μP±Ps, C_μP_μPsC_μC, P_μCT_μC-P_μP°P»P_μC_μC_μ PIP_μP_μP°PrP_μP_μ
P_μP_μCT_μP_μC,, P_μCT_μP_μC±PSPsC— PSP_μPN_μCT_μPsP_μP°C, C-C—, C_μ C, PsPjC_μ C_μP_μC_μP»C- C_μP_μC
P_μPsP»C-PSP_μPN_μCT_μPsP_μP°C, C-C—, C, P°P_μC- PjPsPSPsPSP_μPN_μCT_μPsP_μP°C, C-C—
(PSP°P_μCT_μP_μP_μP»P°Pr, C, C_μPSP_μP»CH_μPSP_μPN_μ C_μP_μPSP_μPrCT_μPsPj P·P°P_μCT_μ C_μC_μC, C_μ). PJ
P±P°P·PsPIP_μC... P_μP»P°C_μP_μP±Ps-PePsPSC, CT_μPsP»CH_μPsPIP°PSP_μC...
PrPsC_μP»C-PrP_μP_μPSPSC_μC... C_μP°C_μC, PsC, P° CT_μPsP·PIP_μC, PeC_μ P_μP_μCT_μP_μC,, P_μCT_μP_μC±PSPsC—
PSP_μPN_μCT_μPsP_μP°C, C-C—, P_μC-PrC, PIP_μCT_μPrP_μP_μPSPsC— PsC_μC-PSPePsC_μ PSP_μCT_μPIP_μPsPIP_μC—
P_μCT_μPsPIC-PrPSPsC_μC, C—, C_μC, P°PSPsPIP_μP»P°B 1,9 % (17 P_μP°C_μC-C" PSC, C-PI P· 898) P_μCT_μP_μ
P·P°C_μC, PsC_μC_μPrPIP°PSPSC- C, P_μCT_μP_μC,, P»C_μPSPsPjC-PrC_μ C_μ PrPsP·C- 14 PjPiB
P_μPsCT_μC-PIPSC_μPSPs P· 0,4 % (4 P_μP°C_μC-C" PSC, P_μ P· 898) P_μCT_μP_μ P·P°C_μC, PsC_μC_μPrPIP°PSPSC-
P_μP»P°C_μP_μP±Ps. P_μP_μCT_μP°P_μC-CT_μ P±C_μP»Ps PIC-PrPjC-PSP_μPSPs C_μ 5 P_μP°C_μC-C" PSC, C-PI P·
P_μP_μCT_μP_μC,, P_μCT_μP_μC±PSPsC_μ PSP_μPN_μCT_μPsP_μP°C, C-C"CT_μ, C_μP_μC- PsC, CT_μP_μPjC_μPrPIP°P»P_μ
C, P_μCT_μP_μC,, P»C_μPSPsPjC-Pr C_μ PrPsP·C- 14 PjPi. PJ 4 P· C_μP_μC... P_μP°C_μC-C" PSC, C-PI
P_μP_μCT_μP_μC,, P_μCT_μP_μC±PSP° PSP_μPN_μCT_μPsP_μP°C, C-C_μ P·PSP_μP_μP°P»P° P_μC-C_μP»C_μ
P_μCT_μP_μP_μPSP_μPSPSC_μ P»C-PeC_μPrPIP°PSPSC_μ.

P°PsP±CT_μPsC_μP_μC-C_μPSC-, P·P»PsC_μP_μC-C_μPSC- C, P° PSP_μC_μC, PsC±PSP_μPSC-
PSPsPIP_μC_μC, PIPsCT_μP_μPSPSC_μ (C_μ C,, C_μ. PeC-C_μC, P_μ C, P° P_μPsP»C-P_μP_μ). P—P°
CT_μP_μP·C_μP»CH_μC, P°C, P°PjP_μ PrPsC_μPIC-PrC_μ P·P°C_μC, PsC_μC_μPrPIP°PSPSC_μ
C, P_μCT_μP_μC,, P»C_μPSPsPjC-PrC_μ C_μ CT_μP°PjP_μP°C... PeP»C-PSC-C±PSP_μC...
PrPsC_μP»C-PrP_μP_μPSCH_μ PSP_μ P±C_μP»Ps PIP_μC_μPIP»P_μPSPs P_μC-PrPIP_μC%P_μPSPSC_μ
CT_μP_μP·P_μPeC_μ CT_μPsP·PIP_μC, PeC_μ P·P»PsC_μP_μC-C_μPSP_μC... P·P°C...PIP_μCT_μCT_μPIP°PSCH_μ.
P P_μP·P_μPe CT_μPsP·PIP_μC, PeC_μ P·P»PsC_μP_μC-C_μPSP_μC... P·P°C...PIP_μCT_μCT_μPIP°PSCH_μ,
PsC_μPsP±P»P_μPIPs P»C-PjC,, PsP_μCT_μPsP»C-C,, P_μCT_μP°C, P_μPIPsP_μC... CT_μPsP·P»P°PrC-PI,
P·P±C-P»CH_μC_μPrPIP°PIC_μC_μ P_μCT_μP_μ P·P°C_μC, PsC_μC_μPrPIP°PSPSC- PrP_μC_μP_μC... C-PSC_μP_μC...
P·P°C_μC_μPsP±C-PI, C%P_μPs PIP_μP»P_μPIP°CT_μC, CH_μ PSP° C-PjC_μPrPSPSC_μ C_μP_μC_μC, P_μPjC_μ (P_μC,, P_μPeC,
PeP»P°C_μC_μ P»C-PeP°CT_μC_μCH_μPeP_μC... P·P°C_μC_μPsP±C-PI).

P_μCT_μP_μP_μC- C_μPeC-C_μPSC- CT_μP_μP°PeC_μC-C— PJ P_μC-C_μP»C_μCT_μP_μC"CT_μC, CT_μP°C_μC-PN_μPSP_μPN_μ
P_μP_μCT_μC-PsPr P_μPsPIC-PrPsPjP»C_μP»PsC_μC_μ P_μCT_μPs PIP_μP_μP°PrP_μP_μ CT_μPsP·PIP_μC, PeC_μ
C, C_μP_μP_μC... C_μPeC-C_μPSP_μC... CT_μP_μP°PeC_μC-PN_μ PSP° C, P»C- P·P°C_μC, PsC_μC_μPrPIP°PSPSC_μ
C, P_μCT_μP_μC,, P»C_μPSPsPjC-PrC_μ (PrP_μPI. CT_μPsP·PrC-P» B«P_μC_μPsP±P»P_μPIPsC_μC, C-
P·P°C_μC, PsC_μC_μPrPIP°PSPSC_μIB»).

P_μCT_μC, P_μPSC-C_μ

PJ P_μP»P°C_μP_μP±Ps-PePsPSC, CT_μPsP»CH_μPsPIP°PSP_μC... PrPsC_μP»C-PrP_μP_μPSPSC_μC... P·P°
C_μC_μP°C_μC, CT_μ PrPsCT_μPsC_μP»P_μC... P_μP°C_μC-C" PSC, C-PI C_μP°C_μC, PsC, P° P°C_μC, P_μPSC-C—
C_μC, P°PSPsPIP_μP»P° 2,0 %, 1,6 % C- 2,2 % C_μ P_μCT_μC_μP_μP°C... P·P°C_μC, PsC_μC_μPrPIP°PSPSC_μ
P_μP»P°C_μP_μP±Ps, C, P_μCT_μP_μC,, P»C_μPSPsPjC-PrC_μ 7 PjPi C, P° C, P_μCT_μP_μC,, P»C_μPSPsPjC-PrC_μ 14
PjPi PIC-PrP_μPsPIC-PrPSPs.

P_μC_μPsCT_μC-P°P·

PJ P_μP»P°C_μP_μP±Ps-PePsPSC, CT_μPsP»CH_μPsPIP°PSP_μC... PrPsC_μP»C-PrP_μP_μPSPSC_μC...
C_μP°C_μC, PsC, P° P_μC_μPsCT_μC-P°P·C_μ C_μC, P°PSPsPIP_μP»P° 0,3 %, 0,3 % C, P° 0,4 % C_μ
P_μCT_μC_μP_μP°C... P·P°C_μC, PsC_μC_μPrPIP°PSPSC_μ P_μP»P°C_μP_μP±Ps, C, P_μCT_μP_μC,, P»C_μPSPsPjC-PrC_μ C_μ
PrPsP·C- 7 PjPi C, P° C, P_μCT_μP_μC,, P»C_μPSPsPjC-PrC_μ C_μ PrPsP·C- 14 PjPi PIC-PrP_μPsPIC-PrPSPs.

P_μPsCT_μC_μC_μP_μPSPSC_μ P· P±PsPeC_μC_μPeP»C_μPSP_μPsPIP_μPs-PeP_μC_μPePsPIP_μPs C, CT_μP°PeC, C_μ

P' PīC-CīP»CīCīCīPμC" CīC, CīP° C†C- P№PSPēP№ PīPμCīC- PsPr P»C- PeCīPIP°PSPSCī C, PμCīPēC,, P»CīPSPsPjC- PrPsPj PīCīPs PīP°PSPeCīPμP° C, PēC, Cī PrPsCīPsCīP»PēC... PīPsPIC- PrPsPjP»CīP»PsCīCī CīC- PrPePs, P·PsPeCīPμPjP° PīCīPs PIPēPīP°PrPePē PSPμPeCīPsC, PēP·CīCīC†PsPiPs PīP°PSPeCīPμP° C, PēC, Cī C, P° PīCīPμPIPrPsPeC- CīC, Pē PīC- PrCēP»CīPSPePsPIPsC— P·P°P»PsP·Pē. P—P°C... PIPsCīCīPIP°PSPSCī PīC- PrCēP»CīPSPePsPIPsC— P·P°P»PsP·Pē PjPsP¶CīC, Cī PIPēPSPēPePSCīC, Pē P±CīPrCīH- PePsP»Pē PīC- Pr C†P°Cī P»C- PeCīPIP°PSPSCī C, PμCīPēC,, P»CīPSPsPjC- PrPsPj; PIPsPSPē PjPsP¶CīC, Cī PīCīPēP·PIPμCīC, Pē PrPs PīPsCīPīC- C, P°P»C- P·P°C†C- C— C, P°/P°P±Ps PIPēPjP°PiP° C, Pē PePsCīPēPīCīPIP°P»CīPSPsPiPs P»C- PeCīPIP°PSPSCī.

P" C- C, Pē

PŸPīPsCīC, PμCīPμP¶CīPIP°PSPēP№ PīCīPsC,, C- P»Cī P±PμP·PīPμPePē Cī PrC- C, PμP№ (PIC- PePsPj PIC- Pr 10 PrPs 17 CīPsPeC- PI), CīPeC- PsC, CīPēPjCīPIP°P»Pē C, PμCīPēC,, P»CīPSPsPjC- Pr C%PsPrPSCī, P·P°PiP°P»PsPj P±CīPI PīPsPrC- P±PSPēPj PrPs C, P°PePsPiPs, C%Ps CīPīPsCīC, PμCīC- PīP°PICīCī Cī PrPsCīPsCīP»PēC... PīP°C†C- C" PSC, C- PI. PħPrPSP°Pe Cī PrPsCīP»C- PrP¶PμPSPSC- P·P° CīC†P°CīC, Cī PrC- C, PμP№ (166 PīP°C†C- C" PSC, C- PI: 109 Bī " Cī PīCīCīPīC- C, PμCīPēC,, P»CīPSPsPjC- PrCī C, P° 57 Bī " Cī PīCīCīPīC- PīP»P°C†PμP±Ps) PIPēPīP°PrPePē PīP°PSPeCīPμP° C, PēC, Cī P±CīP»Pē P·P°CīPμC" CīC, CīPsPIP°PSC- Cī 1,8 % (2/109) PīP°C†C- C" PSC, C- PI, CīPeC- PsC, CīPēPjCīPIP°P»Pē P»C- PeCīPIP°PSPSCī C, PμCīPēC,, P»CīPSPsPjC- PrPsPj, C, PsPrC- CīPe Cī PīCīCīPīC- PīP»P°C†PμP±Ps Bī " P¶PsPrPSPsPiPs Cī PīPsPrPIC- P№PSPs CīP»C- PīC- P№ C,, P°P·C-. PħPrPSP° P· C†PēC... PīPsPrC- P№ PīCīPēP·PIPμP»P° PrPs PīPsCīPīC- C, P°P»C- P·P°C†C- C— C, P° PIPēPjP°PiP°P»P° PePsCīPēPīCīPIP°P»CīPSPsPiPs P»C- PeCīPIP°PSPSCī. Pj PīP°C†C- C" PSC, C- PI PrPēC, CīC†PsPiPs PIC- PeCī, CīPeC- PsC, CīPēPjCīPIP°P»Pē P»C- PeCīPIP°PSPSCī C, PμCīPēC,, P»CīPSPsPjC- PrPsPj PSP° PIC- PrPeCīPēC, PsPjCī PμC, P°PīC- PrPsCīP»C- PrP¶PμPSPSCī, PīPsPIC- PrPsPjP»CīP»PsCīCī C%Pμ PīCīPs 2 PIPēPīP°PrPePē PīP°PSPeCīPμP° C, PēC, Cī (PsPrPēPS PīPsPIC- PrPsPjP»CīPICīCī CīPe CīPμCīPμP№Ps·PSP° PīPsPrC- Cī, C- PSCēPēP№ Bī " PSPμCīPμCīPμP№Ps·PSP° PīPsPrC- Cī P»PμPiPePsC— C- PSC, PμPSCīPēPIPSPsCīC, C-) C, P° PsPrPēPS PIPēPīP°PrPsPe CīPμCīPμP№Ps·PSPsPiPs PīPsCīC, CīPsPiPs PīP°PSPeCīPμP° C, PēC, Cī (P· PīCīPμPIPrPsPīP°PīC- P»PsPjPsCī). Pj PrPIPsC... C- P· C†PēC... 3 PīP°C†C- C" PSC, C- PI PīP°PSPeCīPμP° C, PēC, PīCīPēP·PIC- PI PrPs PīPsCīPīC- C, P°P»C- P·P°C†C- C— . PħP»C- PSC- C†PSC- CīPēPjPīC, PsPjPē PIPEP»CīC†P°P»Pē P±C- P»Cī Cī P¶PēPIPsC, C-, PSCīPrPsC, Cī C, P°/P°P±Ps P±P»CīPIP°PSPSCī, P° C, P°PePsP¶ C†C- PīP°C†C- C" PSC, Pē PjP°P»Pē PīC- PrPIPēC%PμPSC- CīC- PIPSC- P°PjC- P»P·P·Pē C, P° P»C- PīP°P·Pē PI CīPēCīPsPIP° C, C†C- PeCīPsPIC-. PjCīC- PīP°C†C- C" PSC, Pē PsPrCīP¶P°P»Pē PīC- CīP»Cī PīCīPēPīPēPSPμPSPSCī P»C- PeCīPIP°PSPSCī C, P° PīCīPsPIPμPrPμPSPSCī PīCīPēCīPePsCīPμPSPsC— PīCīPsC†PμPrCīCīPē PIPēPIPμPrPμPSPSCī PīCīPμPīP°CīP° C, Cī (PrPēPI. CīPsP·PrC- P» B«PħCīPsP±P»PēPIPsCīC, C- P·P°CīC, PsCīCīPIP°PSPSCīB») C- PePsCīPēPīCīPIP°P»CīPSPsC— C, PμCīP°PīC- C— .

PkPμP±P°P¶P°PSC- CīPIPēC%P°, CīPeC- CīPμC" CīC, CīCīPIP°P»PēCīCī C†P°CīC, C- CēPμ Cī PrC- C, PμP№, PSC- P¶ Cī PrPsCīPsCīP»PēC...:

BīB B B B B B B B PμCīPs P°P»PsPīPμC†C- Cī PīPsPIC- PrPsPjP»CīP»PsCīCī Cī 22,0 % PīP°C†C- C" PSC, C- PI, CīPeC- PsC, CīPēPjCīPIP°P»Pē C, PμCīPēC,, P»CīPSPsPjC- Pr, Cī PīPsCīC- PIPSCīPSPSC- P· 12,3 % Cī PīP°C†C- C" PSC, C- PI, CīPeC- PsC, CīPēPjCīPIP°P»Pē PīP»P°C†PμP±Ps.

BīB B B B B B B B P†PSC,, PμPeC†C- C— P±CīP»Pē P·P°CīPμC" CīC, CīPsPIP°PSC- Cī 66,1 % PīP°C†C- C" PSC, C- PI, CīPeC- PsC, CīPēPjCīPIP°P»Pē C, PμCīPēC,, P»CīPSPsPjC- Pr, Cī

PJPjPsPIPë P·P±PμCḤC-PiP°PSPSCII. P—P±PμCḤC—PiP°C, Pë Cṙ PSPμPrPsCḤC, CṙPiPSPsPjCṙ PrP»CII PrC—C, PμPṀ PjC—CḤC†C—. Pk̇Pμ PiPsC, CḤPμP±CṙC” CḤPiPμC†C—P°P»CHbPSPëC... CṙPjPsPI P·P±PμCḤC—PiP°PSPSCII.

PJPiP°PePsPIPeP°.

P°P»CII PrPsP·CfPIP°PSPSCI PİPsB 7 PjPi:

B,, - 28 (14×2): PİPs 14 C,P°P±P»PµC,PsPe, PIPECḡPëC,PëC... PİP»C-PIPePsPIPsCḡ
PsP±PsP»PsPSPePsCḡ, Cf P±P»C-CÍC,PµCḡC- P· P°P»CḡPjC-PSC-Cḡ; PİPs 2
P±P»C-CÍC,PµCḡPë PIPEP»P°PrPµPSPs PI CfPİP°PePsPIPeCf C,PëPİCf PİP°PjP°PSC†CII;
PİPs 1 CfPİP°PePsPIC†C-B C,PëPİCf PİP°PjP°PSC†CII B PIPEP»P°PrPµPSPs PIB
PeP°CḡC,PsPSPSCf PePsCḡPsP±PeCf.

-

P°P»CII PrPsP·CfPIP°PSPSCI PİPs 14 PjPi:

B,, - 28 (14×2): PİPs 14 C,P°P±P»PµC,PsPe, PIPECḡPëC,PëC... PİP»C-PIPePsPIPsCḡ
PsP±PsP»PsPSPePsCḡ, Cf P±P»C-CÍC,PµCḡC- P· P°P»CḡPjC-PSC-Cḡ; PİPs 2
P±P»C-CÍC,PµCḡPë PIPEP»P°PrPµPSPs PI CfPİP°PePsPIPeCf C,PëPİCf PİP°PjP°PSC†CII; PİPs 1
CfPİP°PePsPIC†C-B C,PëPİCf PİP°PjP°PSC†CII B PIPEP»P°PrPµPSPs PIB PeP°CḡC,PsPSPSCf
PePsCḡPsP±PeCf.

B,, - 84 (14×6): PİPs 14 C,P°P±P»PµC,PsPe, PIPECḡPëC,PëC... PİP»C-PIPePsPIPsCḡ
PsP±PsP»PsPSPePsCḡ, PI P±P»C-CÍC,PµCḡC- P· P°P»CḡPjC-PSC-Cḡ; PİPs 2
P±P»C-CÍC,PµCḡPë PIPEP»P°PrPµPSPs PI CfPİP°PePsPIPeCf C,PëPİCf PİP°PjP°PSC†CII; PİPs 3
CfPİP°PePsPIPePë C,PëPİCf PİP°PjP°PSC†CII B PIPEP»P°PrPµPSPs PIB PeP°CḡC,PsPSPSCf
PePsCḡPsP±PeCf.

PḡP°C,PµPiPsCḡC-CII PIC-PrPİCfCÍPeCf. P—P° CḡPµC†PµPİC,PsPj.

P°PëCḡPsP±PSPëPe.

PhPİPµP»P»P° PΓPµP»CÍPePµP° P†PSC,PµCḡPSPµC€PSP» PŸPḡPŸ/

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**PḡC-CÍC†PµP·PSP°C...PsPrP¶PµPSPSCI PİPëCḡPsP±PSPëPeP° C,P° P°PrCḡPµCÍP°
PjC-CÍC†CII PİCḡPsPIP°PrP¶PµPSPSCI PNḡPsPiPs PrC-CIIP»CḡPSPsCÍC,C-.**

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