











































ΔC·Δσ· Λd ∇ ΔJ b·dJ·dσ·Δ· Δσ·x ∇ VCLd'·dσ·Δ· 9·b· 9  
·ΔPb'·Δbσ·Δ·x ·∇Γ·ndJ· ∇ <PndL9' τ·C ∇ V' <PndL9' Λd  
▷NCN'·Δ ▷ P·P·dL9·Δ·x ▷NJ·P·J·Δ· ∇ <Cσ·σ·x Δσ·L ∇ Δ'<σ·σ· ▷  
NJ·P·J·Δ· b Δ'N ΔJ·d'· ∇Γ·ndJ·x ∇·bσ Lb Γ·σ ·∇' Δ'N ·Δσ·σ·Δ·  
Δσ·σ·Δ ΔC·b·τ·Δ ΔJ·P·J·Δ· τ·C Lb Δσ·σ· ▷NC·b·τ·Δ· b·C·b·C· ∇  
ΛL'P·x Γ·σ Δσ" Δ'Λ· P·J·Λ·σ·x ∇·bσ Λd V·x 9·b· P·Λ· ∇·b·  
Δσ·σ· b·C· 9·b·σ·x ∇·bσ·L P·Λ· b Γ·σ·CP· Δσ·σ·Δ· ∇ Δ·σ·Δ·9'·x τ·C  
Lb Δ'N' P·Λ· b Γ·σ·CP· ∇ <P·C·Δ'·x τ·C Lb Δσ·P P·Λ· b Γ·σ·CP·  
P' Δ·Δ·J·σ· b·Δ J·Δ'·x J·x b C·Δ·J· ∇ τ·C Lb Δ'N·b bσ·C·Δ'·x ·∇·C· Lb  
Δσ· Δσ·L ∇·N·b·U·x J·e Δ·∇·σ·b· Δσ" Δ·V·x· J·e Δ·∇·σ·b· Δσ" Δ·b·C·Δ·  
P' e·C·Δ·L' Δ'N·b ∇·Δ σ·C·Δ'·x ∇·bσ Λd ∇ΔJ ·ΔP·C·Λ' 9·b·σ· ∇  
<σ·σ·x ∇d Lb ∇Γ·Δ·σ·Δ' Δ'N·b·x ∇d Lb ∇J' ·Δ·Δσ·b·d·N' Λd ∇<P·x·  
∇·bσ Δσ" Λd ∇ N·b·U· τ·C Λd ∇ P·σ·b·e·J·9' Λd·x Λ·J· Lb ΔJ·e·b·  
ΛL'N'·Δ·x J·e Lb C·V Γ·∇·x· J·e C·V Γ·∇·x· Δσ·σ·Δ ΛL'N'·Δ· ΔJ·e·b·x  
▷L ∇ N·b·U· ∇ ΛL'P·dσ·Δ·x Γ·C·Δ 9·b· Δσ·σ·Δ Δσ·σ·Δ ΔC·N'·Δσ· bP  
<C·P·C· ∇·b· Γ·b· ∇ ΛL'P·x ▷L·P·d·Δ' P·J·σ·e·Δ'·x ∇ <L·J' ▷N·e·P'  
·∇Γ·ndJ·Δ ΔC·b·τ·Δσ·σ·x <L·J' ▷N·e·P' ·∇Γ·ndJ·Δ b·ΔJ b·P·C·σ·x ·∇·b·  
·Δ·e P·J·σ·e·Δ' bP ΛL'N'·x ·Δ·e·Δ· Λd ▷C·C·R·C·Δσ·Δ·Δ P <C·R·C·Δ' ·∇·b·  
·<L·J' ΔC' ·Δ·e ·∇Γ·ndJ·x ·Δ·e·Δ· Λd Γ·∇ 9·b·σ· P Γ·σ·N'·Δ'·x  
P·P·dL9·Δσ·σ·x ▷C·d P·9·σ·C·J·Δσ·Δ· τ·C Γ·∇ b·ΔJ e·b·R·C·x Δ'P·σ·x  
·Δ·e·Δ· P Δ·Δ·Δ' Δσ·Γ·σ· P·P·dL9·Δσ·σ·x P·N·Λ ΔJ·e·dσ·σ· Lb·x P·N·Λ  
ΛL'P·Δ·9·Δ'·x τ·C J·e Δ' L·e·Cσ·σ· b·C·P· U·Λ· ∇b ∇ ·Δσ·C·P· Δ'·C·x  
σ·d· Lb P ΔC·Δ' bP ·Δσ·C·P·x b·ΔP' Λd P·Λ· Δσ· b P·J·b·x P ΔC·Δ'  
b·L' ΛL'N'·x P ΔC·Δ' τ·C b·Γ·σ ΔC·N'·x Δ·∇·σ·b·e·x ·b·x· b·C·P· ∇  
ΛL'N'·x Δ'P·x ∇·bσ·P Lb ▷d ∇b b·Λ·P·9·σ·C·d' ∇b b·N·C·R·C·x ∇·bσ·P  
N·C·R·L·b·σ·Δ·Δ' ▷x· bP ·Δ·Δσ·C·P·x bP ·Δσ·C·P· ∇ΛL'N'·x Δ'P·  
<·U·b·R·C·d'·Δ'·x σ·d· Lb Γ·C·Δ Δ'N P·Λ· V·C·b· ΔC·b·σ· Δ'·C· ΔJ V·C·b·  
b·x· 9·b·e τ·C Λd b·x· N·C·R·C·d'·Δσ· bP V' C·V Δ ΔN'· P·J·σ·e·Δ'·x  
σ·L·e· bP Γ·J·e·P' ▷NC·b·τ·Δ ΛL'P·Δσ·Δ·x ∇·bσ ∇ ΔJ P·9·σ·C·b·x ∇·bσ  
∇ ΔJ P·9·σ·C·b· ▷▷ 9·b·e b Δσ·J·C·L·x Γ·J' Lb P·J·b·Δ·Δ' P b·9·R·L·Δ' ▷▷







∇·bσ Lb ·∇Γ ΛC∞e·b` <∞- P°P\_∞<L9·Δ³\_x ∇·bσ ·∇Γ ΔP ▷L bΔP` b  
·<<CL` ∇ΛL∩r'x ∇b b PΓC·9C·b` Γ\_∞ <∞"x ∇·bσ bΔ·U' V'x` Λd P∞b<°  
P VC·<° <σL ∇ Δ·U'x ∇ΔJ σ'ΓC·∇σC`x C·V Lb UU³\_x C·V ∇·bσ ∇ ΔJ  
<∞·∇³C<·b`x ∇·bσ Lb ΛCL\_x