

!" #&/
4;O <548G=>3> 70AB>AC20==O ;V:0@AL:>3> 70A>1C
#&...\$. \$"
(NUCLEO C.M.P. FORTE)

!::04:
4VNGV @5G>28=8: Cytidine-5-disodium monophosphate (CMP disodium salt), uridine-5-trisodium triphosphate (UTP trisodium salt), uridine-5-disodium diphosphate (UDP disodium salt), uridine-5- disodium monophosphate (UMP disodium salt);
1 0DV;V70B<<
4>?>28=8: <0=VB (421);
@>7G8==8:: 2>40 4;O V=T: FV9, =0B@VN E;>@84.

V:0@AL:0 D>@<0. V>DV;V70B 4;O @>7G8=C 4;O V=T: FV9.
A=>2=V DV78:>-EVABV:;V>DV;V7>20=89 ?>@>H>: C 283;O4V ?0AB8;8, 1V;>3> :>;L>@C, I> ;53:> @>7G8=OTBLAO.

\$0@<0:>B5@0?52B8G=0 3@C?0.
0A>18, I> 2?;820NBL =0 =5@2>2C A8AB54 AT% N07X X.

\$0@<0:>:>3VG=V' 2;0AB82>ABV.
\$0@<0:>:48=0
C::5> &...\$. \$>@B5 C A2>TB848: F8B848=C <=>D>AD0B (&\$), C@848=C B@8D>AD0B (#"\$), O:V H8@>:> 28:>@8AB>2CNBLAO 4;O ;V:C20==O 70E2>@N20=L F5=B@0;L=>W =5@2>2>W A8AB5<8 (&!).
1V>EVW B>G:8 7>@C 4VO F8E :>=5=BV2 B0:0:
&\$ 15@5 CG0ABL C A8=B57V :>@=0;L=C <5<1@0=C, 3>;>2=8< G8=>< ADV=3>A=>2=89 :>=5=B 2>W >1>;>=:8. "0:>6 &\$ T ?>?5@54=8:>< =C::;5W=>28E :8A;>B (B0), O:V, C A2>N G5@3C, T >A=>2=8<8 5;5<5=B0<8 ;;VB8==>3> <5B01>;V72>
#"\$ 4VT O: :>D5@<5=B C A8=B57V 3;V>;V?V4V2, =59@=>0;L=8E AB@C:BC@ B02>W >1>;>=:8, 4?>2=NNG8 4VN &\$. @V< B>3>,#"\$ 4VT O: 465@5;> 5=5@3VW C ?@>F5AV A:>@>G5==O <□O7V2.
&\$ B0 #" \$ 15@CBL CG0ABL C A8=B57V D>AD>;V?V4V2 V 3;V>;V?V4V2, O:V 3>;>2=8< G8=>< A::040NBL 2C >1>;>=:C B0 V=HV =5@2>2V AB@C:BC@8. &5 A?@8OT V=B5=A82=V9 <5B01>;VG=V9 0:B82=>ABV, O:0. C A2>N G5@3C, A?@8OT ?@>F5AC @535=5@0FVW2>W >1>;>=:8. @53C;NNG8 4528E ?>H:>465==OE. "0:8< G8=><, ?>T4=0==O 4VW &\$ B0 #" \$ A?@8OT @535=5@0FVW 2>W >1>;>=:8, ?@028;L=>2545=N =5@2>2>3> 71C465==O B0 2V4=>2;5=N <O7>2>W B@>DV:8.

\$0@<0:>.:V=5B8:0.
C::5> &...\$. \$>@B5 T;>3VG=V ?@>4C:B8, O:V ?@8ACB=V 2 1V>;>3VG=8E @V48=0E >@30=V7 @>18BL 9>3> 282G5==O 206G8N B>3>, I> G5@57 25;8;5 @04V>;>3VG=5 =020=B065==O, ?@>2>48;8AO 4>A;V465==O BV;L:8 =0 ?V44>A;V4=8E B20@8=0E 7 28:>@8AB0==O< @04V>0:B82=> 3> ?@>4C:BC.
5B>N 4>A;V465==O 1C;> A?>AB5@565==O ?>3;8=0==O V D0@<0>.:V=5B8:8 #\$, &\$ B0 #"\$.
@57C;LB0BV, >48= V B>9 65<5B01>;VG=89 H:OE 1C2 28O2;5=89 4;O # \$ B0 #" \$, B>1B> 1C;> 28O2;5=> H284:5 ?5@5B2>@5==O G5@57 C@0F8; C I>=09<5=H5 I5 >4=C ?>;O@=C @04V>0:B82=C D@0:FVN.
!?>;C:0 &\$ H284:> ?5@5B2>@N20;0AL 2 F8B>78=, C@0F8; V I>=09<5=H5 2 I5 >4=C ?>;O@=C @04V>0:B82=C D@0:FVN. VA;O FL>3> F8B>78= 2 >A=>2=>@NTBLAO 2 C@0F8;; &V @57C;LB0B8 2V4>1@060NBL, I> 2 :@>2V C@0F8; =094>2H5 <5B01>;V7CTBLAO 2 ?@8ACB=>ABV F8B>78=C, O:89 1C2 AC2>@5=89 7 ?>G0B:C 22545==O &\$.

;V=VG=V E0@0:B5@8AB8:8.
>:070==O.
V:C20==O =52@>?0BV9 :VAB>2>-AC3;>1>2>3> (VHV0A, @048:C;VB),<5B01>;VG=>3> (0;>3>;L=0, 4V015B8G=0 ?>;V=59@>?0BVO), V=D5:FV9=>3> ?>E>465==O (>?5@V7C20;L=89 ;8H09) B0 ?0@0;VG 5;;0.
52@0;3VO ;8FL>2>3>, B@V9G0AB>3> =5@20,

@>B8?>:070==O.
V4> >:@5=5B8 ?@5?0@0BC.

70T<>4VO 7 V=H8<8 ;V:0@AL:8<8 70A>10<8 B0 V=HV 2848 270T<>4V9.
5 2AB0=>2;5=0.

A>1;82>ABV 70AB>AC20==O.
C::5> &...\$. \$>@B5 V=T:FVW, ?@87=0G5=89 4;O 2=CB@VH=L<□O7>2>3> 22545==O. 5@54 22545==O< =5>1EV4=> @>7G8==8: ?5@5=5AB8 2 0DV;V7>20=8< ?>@>H:>

0AB>AC20==O C ?5@V>4 203VB=>ABV 01> 3>4C20==O 3@C44N.
0AB>AC20==O ?@5?0@0BC C ?5@V>4 203VB=>ABV 01> 3>4C20==O 3@C44N <6;825, O:I>, =0 4CGV:C20=89 ?>78B82=89 5D5:B 4;O 6V=:8 ?5@528ICT ?>B5=FV9=89 @878: 4;O ?;>40/48B8=8.

40B=VABL 2?;820B8 =0 H284:VABL @50:FVW ?@8 :5@C20==V 02B>B@0=A?>@B<< 01> V=H8<8 <5E0=V7<0<8.
C::5> &...\$. \$>@B5 =5 2?;820T =0 740B=VABL :5@C20B8 B@0=A?>@B=8<8 70A>10<8 V ?@0FN20B8 7V A::04=8<8 <5E0=V7<0<8.

!?!>AV1 70AB>AC20==O B0 4>78.
C::5> &...\$. \$>@B5, V=T:FVW, ?@87=0G5=89 4;O 2=CB@VH=L<□O7>2>3> 22545==O. 5@54 22545==O< =5>1EV4=> @>7G8==8: ?5@5=5AB8 2 0DV;V7>20=8< ?>@>H:>
>@>A:8<, C B>
V:C20==O ?>@>4>26CNBL V7 70AB>AC20==O< C::5> &...\$. \$>@B5, :0?AC;.

VB8.
5<0T 4>AB0B=VE 40=8E 4;O 70AB>AC20==O ?@5?0@0BC 4VBO

5@54>7C20==O.
@0E>2CNG8 =87L:C B>:A8G=VABL ?@5?0@0BC, 2V@>3V4=VABL >B@CT==O =87L:0 =02VBL ?@8 28?04:>2W 4>78.

>IVG=V'@50:FVW.
5 1C;8>?8A0=V. #>AV1 7 ?V428I5=>N GCB;82VABN<>6;82V 0;5@3VG=V @50:FVW, 2;;NG0NG8 28A8?8, A25@1V6 H:V@8, 3V?5@5IVG=>W @50:FVW, 7C<>2;5=>W 70AB>AC20==O< ?@5?0@0BC, ?@>:>=AC;LBC9B5A0 7 ;V:0@5

"5@ABV. 2 @>:8.

#<>28 715@V30==O.
15@V30B8 C =54>ABC?=>

5AC
5 2AB0=>2;5=0.

#?0>2:0.
> 3 0DV;V7>20=8< ?>@>H:>< B0 3 07G8==8:>< C :>=BC@=V9 G0@C=:>2V9 C?0:>2FV.
0B53>@VO 2V4?CA:C. 0 @5F5?B>
8@>1=8:.
\$5@>5@ =B5@=0cV>=0;L, !..., A?0=VO.

VAF57=0E>465==O 28@>1=8:0 B0 9>3> 04@5A0 20465==O 4VO;L=>ABV.
.@848G=0 04@5A0:
@0= V0 0@>:A , 94, 08028 0@A5;>=0, A?0=VO.
VAF5 28@>1=8FB20:
A/%>0= CA:090, 1-9, 08173 !0=B C30B 45;L 095A (0@A5;>=0), A?0=VO.