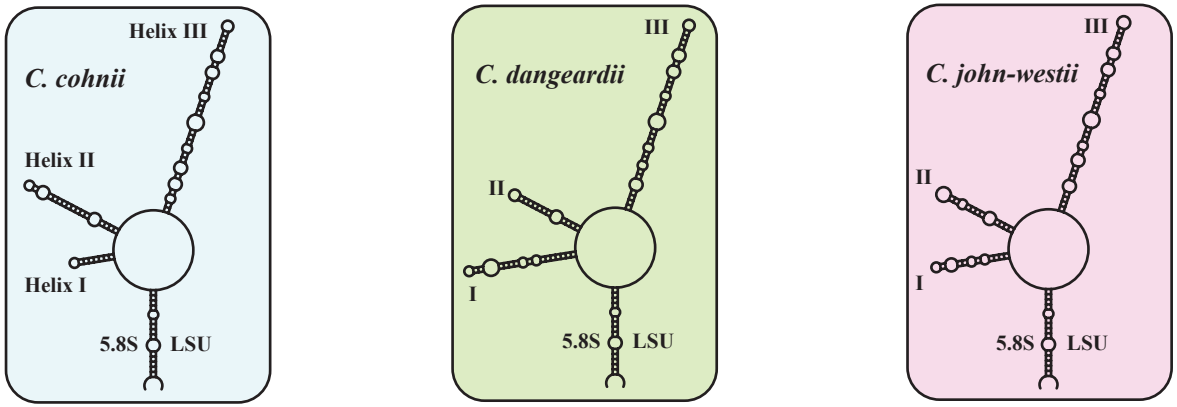


5.8S/LSU stem

```
                C-      C
SAG 9.90        UGUCUG  CUCAG GUCGG
                ||•|||  ||||| ||||•
                ACGGAC  GAGUC CAGCU
                UA      -
                C-      C
SCCAP K-0421    UGUCUG  CUCAG GUCGG
                ||•|||  ||||| ||||•
                ACGGAC  GAGUC CAGCU
                UA      -

                C-      C
SAG 8.86        UGUCUG  CUCAG GUCGG
CCAP 211/25     ||•|||  ||||| ||||•
CCAP 233/1      ACGGAC  GAGUC CAGCU
                UA      -

                C-      C
                UGUCUG  CUCAG GUCGG
CCAP 6005/10    ||•|||  ||||| ||||•
                ACGGAC  GAGUC CAGCU
                UA      -
                C-      C
CCAP 6005/11    UGUCUG  CUCAG GUCGG
CCAP 6005/12    ||•|||  ||||| ||||•
CCAP 6005/13    ACGGAC  GAGUC CAGCU
                UA      -
                C-      C
                UGUCUG  CUCAG GUCGG
CCAP 6005/4     ||•|||  ||||| ||||•
CCAP 6005/5     ACGGAC  GAGUC CAGCU
                UA      -
                C-      C
                UGUCUG  CUCAG GUCGG
UTEX 2846       ||•|||  ||||| ||||•
                ACGGAC  GAGUC CAGCU
                UA      -
```

Helix I

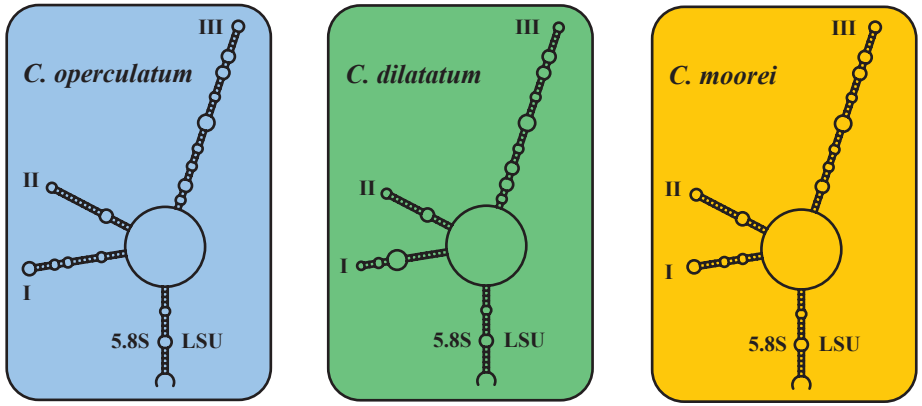
```
                  C
SAG 9.90        UCAC ACCC C
                •||| |||| |
                GGUG UGGG A
                       G
                       C
SCCAP K-0421    UCAC ACCC C
                •||| |||| |
                GGUG UGGG A
                       G

                    -  -      AAU   C
SAG 8.86        UCAC AACA CA UCCAC   CAC U
CCAP 211/25     •||| |||| || |||||   ||| |
CCAP 233/1      GGUG UUGU GU AGGUG   GUG C
                     C  C      CGC   G

                  U   -   AC  U
                UCAC A -CC CCC  CC U
                •||| |  || |||  || |
                GGUG U -GG GGG  GG G
                     C   C   AC  U
                     C   -   AC  U
CCAP 6005/11    UCAC A -CC CCC  CC U
CCAP 6005/12    •||| |  || |||  || |
CCAP 6005/13    GGUG U -GG GGG  GG G
                     C   C   AC  U
                     -   -   AC  UU
                UCAC A CCC CCC  CC  \
CCAP 6005/4     •||| | ||| |||  ||  U
CCAP 6005/5     GGUG U GGG GGG  GG  /
                     C   C   CC  UG
                    A-   -   AC  UU
                UCAC   CCC CCC  CC  \
UTEX 2846       •|||   ||| |||  ||  U
                GGUG   GGG GGG  GG  /
                    AC   C   CC  UG
```

Helix II

```
                UC      GA  C
SAG 9.90        UGGUC CUCAG GCUCC CU U
                ••|•| |•||| ||•|| || |
                GUCGG GGGUC CGGGG GA C
                UC        AG  G
                UC        CU
SCCAP K-0421    UGGUC CUCAG GCCC  \
                ••|•| |•||| ||||  C
                GUCGG GGGUC CGGG  /
                UC        CG

                UC      CU
SAG 8.86        UGGUC CUCAG GCA  \
CCAP 211/25     ••|•| |•||| |||  C
CCAP 233/1      GUCGG GGGUC CGU  /
                UU        UG

                UC      A  CUC
                UGGCC CUCAG CCC   \
                ••||| |•||| |||   A
                GUCGG GGGUC GGG   /
                UC      C  CCC
                UC      A  CUC
CCAP 6005/11    UGGCC CUCAG CCC   \
CCAP 6005/12    ••||| |•||| |||   A
CCAP 6005/13    GUCGG GGGUC GGG   /
                UC      C  CCC
                UC      A   CU
                UGGCC CUCAG CCCC  C
CCAP 6005/4     ••||| |•||| ||||  |
CCAP 6005/5     GUCGG GGGUC GGGG  A
                UC      C   CC
                UC          CU
                UGGCC CUCAG GUCCC C
UTEX 2846       ••||| |•||| |•||| |
                GUCGG GGGUC CGGGG A
                UC        CG
```

Helix III

```
                GGA-  -  AC  A-   A   UAU   A   AA-      AG
SAG 9.90        UUC   GAC GC  GC  U-GG CCUG  GGCA CAGC  GGUAGGU  \
                |•|   ||| ||  ||  | || ||••  •||| ||||  •||||••  C
                AGG   CUG CG  CG  A-CC GGGU  UCGU GUCG  UCAUCUG  /
                ACGC  C  AA  AG  C  U--  C  ACC      CU
                GGA-  AC- A-  A   UAU   A   AA-      AG
SCCAP K-0421    UUC   GAC-GC  GC  U-GG CCUG  GGCA CAGC  GGUAGGU  \
                |•|   ||| ||  ||  | || ||••  •||| ||||  •||||••  C
                AGG   CUG-CG  CG  A-CC GGGU  UCGU GUCG  UCAUCUG  /
                ACGC      GCA AG  C  U--  C  ACC      CU

                GGA-      AA-  -   A   UAU   A   AA- UA     CU
SAG 8.86        UUU   GGA-GC  -GCA U-GG CCUG  GGCA CGGC  GG  GGUAG  \
CCAP 211/25     |••   ||| ||  ||| | |• ||••  •||| ||||  ||  •||||  C
CCAP 233/1      AGG   CCU-CG  -CGU A-CU GGGU  UCGU GCCG  CC  UCAUC  /
                ACGU      CA-  C   C   U--  C   A--  --     AG

                GGA-      AA      --  A   UAU   A   AA-      AG
                UUC   GAC-GC  GCAG  GG CCUG  GGCA CAGC  GGUAGGU  C
                |•|   ||| ||  ||||  || ||••  •||| ||||  •||||••  |
                AGG   CUG-CG  CGUC  CC GGGU  UCGU GUCG  UCAUCUG  C
                ACGC      GA      GG  -   U--  C  ACC      CU
                GGA-      AA      --  A   UAU   A   AA-      AG
CCAP 6005/11    UUC   GAC-GC  GCAG  GG CCUG  GGCA CAGC  GGUAGGU  C
CCAP 6005/12    |•|   ||| ||  ||||  || ||••  •||| ||||  •||||••  |
CCAP 6005/13    AGG   CUG-CG  CGUC  CC GGGU  UCGU GUCG  UCAUCUG  C
                ACGC      GA      GG  -   U--  C  ACC      CU
                GGA-      AA      --  A   UAU   A   AA-      AG
                UUC   GAC-GC  GCAG  GG CCUG  GGCA CAGC  GGUAGGU  C
CCAP 6005/4     |•|   ||| ||  ||||  || ||••  •||| ||||  •||||••  |
CCAP 6005/5     AGG   CUG-CG  CGUC  CC GGGU  UCGU GUCG  UCAUCUG  C
                ACGC      CA      GG  G   U--  C  ACC      CU
                GGA-      AC      --  A   UAU   A   AA-      AG
                UUC   GAC-GC  GCAG  GG CCUG  GGCA CAGC  GGUAGGU  C
UTEX 2846       |•|   ||| ||  ||||  || ||••  •||| ||||  •||||••  |
                AGG   CUG-CG  CGUC  CC GGGU  UCGU GUCG  UCAUCUG  C
                ACGC      CA      GG  G   U--  C  ACC      CU
```



5.8S/LSU stem

```
SAG 11.90
      C-      C
UGUCUG   CUCAG GUCGG
||•|||   ||||| ||||•
ACGGAC   GAGUC CAGCU
      UA      -

SAG 19.92
      C-      C
UGUCUG   CUCAG GUCGG
||•|||   ||||| ||||•
ACGGAC   GAGUC CAGCU
      UA      -

SAG 12.90
      C-      C
UGUCUG   CUCAG GUCGG
||•|||   ||||| ||||•
ACGGAC   GAGUC CAGCU
      UA      -

CCAP 6005/6
      C-      C
UGUCUG   CUCAG GUCGG
||•|||   ||||| ||||•
ACGGAC   GAGUC CAGCU
      UA      -

CCMP 2288
      C-      C
UGUCUG   CUCAG GUCGG
||•|||   ||||| ||||•
ACGGAC   GAGUC CAGCU
      UA      -
```

Helix I

```
SAG 11.90
      A       G  ---A     CA
UCAC  A CUCCCC UC      CCAC  C
•|||  | |||||| •|      ||||  |
GGUG  U GAGGGG GG      GGUG  C
       C       G  ---G     UG

SAG 19.92
      A       G  A  A     CA
UCAC  A CUCCCC UC CC CCAC  C
•|||  | |||||| •| ||  ||||  |
GGUG  U GAGGGG GG GG GGUG  C
       C       G  -  G     UG

SAG 12.90
          UCAU   A    U
UCAC  AGCUC      GC CUC \
•|||  |||||      || ||| C
GGUG  UCGAG      CG GAG /
          CGGC   C    C

CCAP 6005/6
      -   U       CU
UCAC   CCC CUCCC   U
•|||   ||| |||||   |
GGUG   GGG GAGGG   G
     C    C       CC
  A       C-        G
UC C  ACCC    CUCCCA C
•| |  ||||    |||||| |
GG G  UGGG    GAGGGU U
  C       CA        C

CCMP 2288
      -   U       CU
UCAC   CCC CUCCC   U
•|||   ||| |||||   |
GGUG   GGG GAGGG   G
     C    C       CC
  A       C-        G
UC C  ACCC    CUCCCA C
•| |  ||||    |||||| |
GG G  UGGG    GAGGGU U
  C       CA        C
```

Helix II

```
SAG 11.90
      UC          U
UGGUC   CUCAG GCCCUC C
••|•|   |•||| ||||•| |
GUCGG   GGGUC CGGGGG U
      UC          C

SAG 19.92
      UC          U
UGGUC   CUCAG GCCCUC C
••|•|   |•||| ||||•| |
GUCGG   GGGUC CGGGGG U
      UC          C

SAG 12.90
      UC          C
UGGUC   CUCAG GCC U
••|•|   |•||| ||| |
GUCGG   GGGUC CGG C
      UC          G

CCAP 6005/6
      UC          CU
UGGUC   CUCAG GCCC  \
••|•|   |•||| •|||  C
GUCGG   GGGUC UGGG  /
      UC          UG
      UC          CU
UGGUC   CUCAG GCCC  \
••|•|   |•||| ||||  C
GUCGG   GGGUC CGGG  /
      UC          UG

CCMP 2288
      UC          CU
UGGUC   CUCAG GCCC  \
••|•|   |•||| •|||  C
GUCGG   GGGUC UGGG  /
      UC          UG
      UC          CU
UGGUC   CUCAG GCCC  \
••|•|   |•||| ||||  C
GUCGG   GGGUC CGGG  /
      UC          UG
```

Helix III

```
SAG 11.90
   GGA-  C   AC-   -   A   UAU   A   AA-  UA     CU
UUC    GG -GC   GCA U-GG CCUG   GGCA CAGC   GG  GGUAG  \
|•|    ||  ||   ||| | || ||••   •||| ||||   ||  •||||  C
AGG    CC -CG   CGU A-CC GGGU   UCGU GUCG   CC  UCAUC  /
   ACGC  A   AA-   C   C   U--   C   A--  --     UG

   GGA-  C   AC-   -   A   UAU   A   AA-  UA     CU
UUC    GG -GC   GCA U-GG CCUG   GGCA CAGC   GG  GGUAG  \
|•|    ||  ||   ||| | || ||••   •||| ||||   ||  •||||  C
AGG    CC -CG   CGU A-CC GGGU   UCGU GUCG   CC  UCAUC  /
   ACGC  A   AA-   C   C   U--   C   A--  --     UG

SAG 12.90
   GGA-  C   AC-  A-   A   UAU   A   AA-  UA     U
UUC    GG -GC   GC  U-GG CCUG   GGCA CAGC   GG  GGUAG U
|•|    ||  ||   ||  | || ||••   •||| ||||   ||  •||||  |
AGG    CC -CG   CG  A-CC GGGU   UCGU GUCG   CC  UCAUC U
   ACGC  A   AA-  CC   C   U--   C   A--  --     A

CCAP 6005/6
   GGA-      AA-   -   A   UAU   A   AA-  UA     CU
UUU    GGU-GC   GCA U-GG CCUG   GGCA CAGC   GG  GGUAG  \
|••    ||• ||   ||| | || ||••   •||| ||||   ||  •||||  C
AGG    CCG-CG   CGU A-CC GGGU   UCGU GUCG   CC  UCAUC  /
   ACGC      AA-   C   C   U--   C   A--  --     UG
   GGA-      AA-  A-   A   UAU   A   AA-        AG
UUU    GGU-GC   GC  U-GG CCUG   GGCA CAGC   GGUAGGU  \
|••    ||| ||   ||  | || ||••   •||| ||||   •||||••  C
AGG    CCA-CG   CG  A-CC GGGU   UCGU GUCG   UCAUCUG  /
   ACGC      AG-  CG   C   U--   C   ACC        CU

CCMP 2288
   GGA-      AA-   -   A   UAU   A   AA-  UA     CU
UUU    GGU-GC   GCA U-GG CCUG   GGCA CAGC   GG  GGUAG  \
|••    ||• ||   ||| | || ||••   •||| ||||   ||  •||||  C
AGG    CCG-CG   CGU A-CC GGGU   UCGU GUCG   CC  UCAUC  /
   ACGC      AA-   C   C   U--   C   A--  --     UG
   GGA-      AA-  A-   A   UAU   A   AA-        AG
UUU    GGU-GC   GC  U-GG CCUG   GGCA CAGC   GGUAGGU  \
|••    ||| ||   ||  | || ||••   •||| ||||   •||||••  C
AGG    CCA-CG   CG  A-CC GGGU   UCGU GUCG   UCAUCUG  /
   ACGC      AG-  CG   C   U--   C   ACC        CU
```