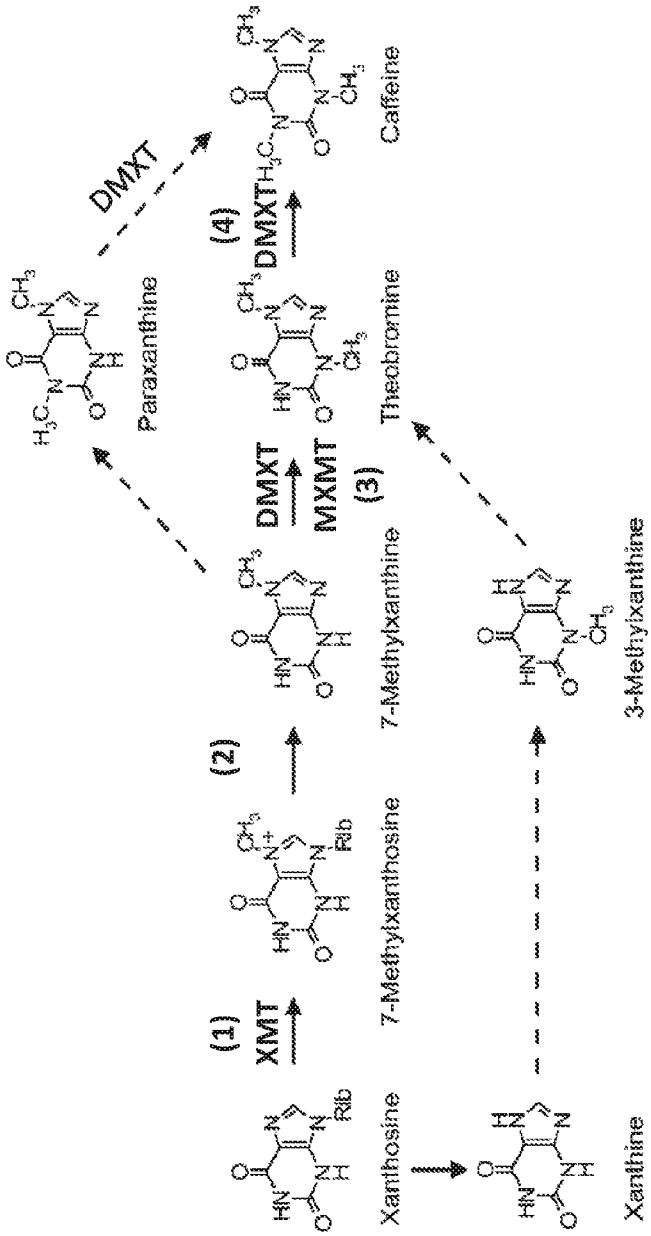
FIG. 1



Incorporated and modified from Ogita et al 2004 (Plant Mol Bio)

FIG. 2

```
Cc09_g06950     MELQEVLHNNGGEGEASYAKNSSFNQLVLAKVKPVLEQCVRELLRANLPNINKCIKVADL
Ca_DXNT1        MELQEVLHNNGGEGDTSYAKNSFYN-LFLIRVKPILEQCIQELLRANLPNINKCIKVADL
Cc01_g00720     MELQEVLHNNGGEGDTSYAKNSSYN-LFLIRVKPVLEQCIQELLRANLPNINKCFKVGDL
Cc09_g06960     MELQEVLHNNGGEGDTSYAKNSSYNQLVLTKVKPVLEQCIRELLRANLPNINKCIKVADL
CaXNT1          MELQEVLRNNGGEGDTSYAKNSAYNQLVLAKVKPVLEQCVRELLRANLPNINKCIKVADL
Cc09_g06970     MELQEVLRNNGGEGDTSYAKNSAYNQLVLAKVKPVLEQCVRELLRANLPNINKCIKVADL
CaMXNT2         MELQEVLHNNEGEGDTSYAKNASYN-LALAKVKPFLEQCIRELLRANLPNINKCIKVADL
CaMXNT1         MELQEVLHNNEGEGDTSYAKNASYN-LALAKVKPFLEQCIRELLRANLPNINKCIKVADL
Cc00_g24720     MELQEVLHNNEGEGDTSYAKNASYN-LALAKVKPFLEQCIRELLRANLPNINKCIKVADL
                *******.** ***:;*****: :* * * .***.****:.*************:**.**

Cc09_g06950     GCASGPNTLLTVRDTVQSIDKVRQEKKNELERPTIQVFLTDLFQNDFNSVFKLLPSFYRK
Ca_DXNT1        GCASGPNTLLTVRDIVQSIDKVGQEKKNELERPTIQIFLNDLFQNDFNSVFKSLPSFYRK
Cc01_g00720     GCASGPNTFSTVRDIVQSIDKVGQEKKNELERPTIQIFLNDLFQNDFNSVFKLLPSFYRN
Cc09_g06960     GCASGPNTLLTVRDIVQSIDKVGQEEKNELEHPTIQIFLNDLFQNDFNSVFKLLPSFYRK
CaXNT1          GCASGPNTLLTVRDIVQSIDKVGQEKKNELERPTIQIFLNDLFPNDFNSVFKLLPSFYRK
Cc09_g06970     GCASGPNTLLTVRDIVQSIDKVGQEKKNELERPTIQIFLNDLFPNDFNSVFKLLPSFYRK
CaMXNT2         GCASGPNTLLTVRDIVQSIDKVGQEEKNELERPTIQIFLNDLFQNDFNSVFKLLPSFYRK
CaMXNT1         GCASGPNTLLTVRDIVQSIDKVGQEEKNELERPTIQIFLNDLFQNDFNSVFKLLPSFYRK
Cc00_g24720     GCASGPNTLLTVRDIVQSIDKVGQEEKNELERPTIQIFLNDLFQNDFNSVFKLLPSFYRK
                ********: **** ******* ** *****.****:**.*** *******  ******:

Cc09_g06950     LEKENGRKIGSCLIAANPGSFHGRLFPEESNHFLHSSYSLQFLSQVPSGLVTELGITANK
Ca_DXNT1        LEKENGRKIGSCLIGANPGSFYGRLFPEESNHFLHSCYCLHWLSQVPSGLVTEL GISANK
Cc01_g00720     LEKENGRKIGSCLIGANPGSFYSRLFPEESNHFLHSCYCLHWLSQVPSGLVTELGISVNK
Cc09_g06960     LEKENGRKIGSCLISANPGSFYGRLFPEESMHFLHSCYSVHWLSQVPSGLVTELGISANK
CaXNT1          LEKENGRKIGSCLIGANPGSFYSRLFPEESMHFLHSCYCLQWLSQVPSGLVTELGISTNK
Cc09_g06970     LEKENGRKIGSCLIGANPGSFYSRLFPEESMHFLHSCYCLQWLSQVPSGLVTESGISTNK
CaMXNT2         LEKENGRKIGSCLISANPGSFYGRLFPEESNHFLHSCYSVHWLSQVPSGLVIELGIGANK
CaMXNT1         LEKENGRKIGSCLISANPGSFYGRLFPEESNHFLHSCYSVHWLSQVPSGLVIELGIGANK
Cc00_g24720     LEKENGRKIGSCLISANPGSFYGRLFPEESNHFLHSCYSVHWLSQVPSGLVIELGIGANK
                **************.******:.*************.*.:::********* * ** .**

Cc09_g06950     RSIYSSKASPPPVQKAYLDQFTKDFTTFLRNRSEELLSRGRMLLTCICKGDECDGPNTND
Ca_DXNT1        GCIYSSKASRPPIQKAYLDQFTKDFT TFLRIHSEELISRGRNLLTWICKEDEFENPNSID
Cc01_g00720     GCIYSSKASRPPIQKAYLDQFTKDFTTFLRIHSEELISRGRNLLTFICKEDEFDHPNSND
Cc09_g06960     GIIYSSKASPPPVQKAYLDQFTKDFTTFLRIHSEELLSGGRNLLTCICKGDESDGLNTID
CaXNT1          GSIYSSKASRLPVQKAYLDQFTKDFTTFLRIHSEELFSHGRNLLTCIC KGVELDARNAID
Cc09_g06970     GSIYSSKASRLPVQKAYLDQFTKDFTTFLRIHSEELFSHGRNLLTCICKGVELDARNAID
CaMXNT2         GSIYSSKASRPPVQKAYLDQFTKDFTTFLRIHSKELFSRGRNLLTCICKVDEYDEPNPLD
CaMXNT1         GSIYSSKGCRPPVQKAYLDQFTKDFTTFLRIHSKELFSRGRNLLTCICKVDEFDEPNPLD
Cc00_g24720     GSIYSSKGCRPPVQKAYLDQFTKDFTTFLRIHSKELFSRGRNLLTCICKVDEFDEPNPLD
                  *****..  *:******************:.*:**:* ****** ***  * :  *.:*
```

FIG. 2 continuation



FIG. 3

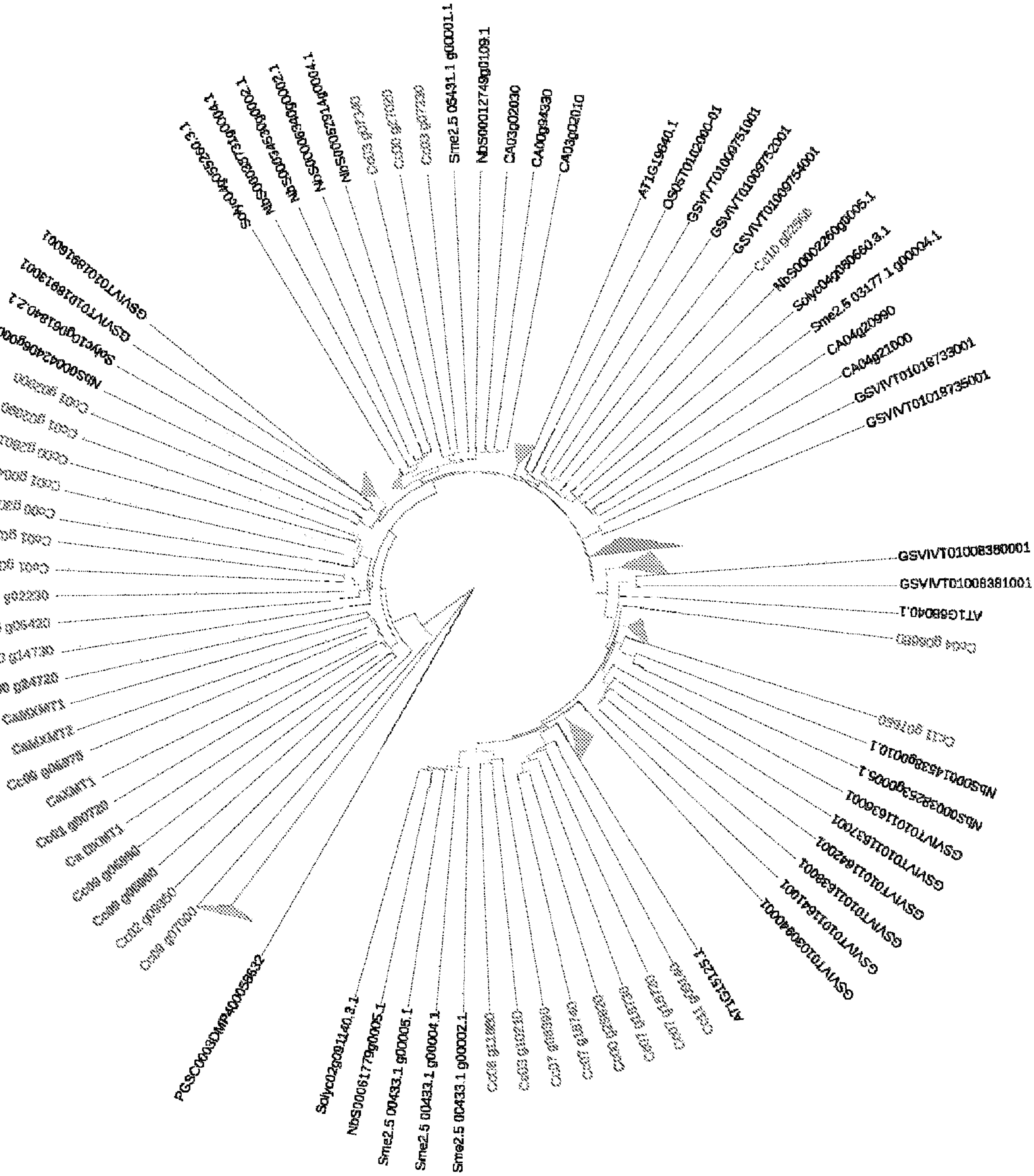

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Sme2.5 05431.1 g00001.1
NbS00012749g0109.1
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CA04g21000
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GSVIVT01018735001
GSVIVT01008380001
GSVIVT01008381001
AT1G68040.1
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NbS00038253g0005.1
GSVIVT01011636001
GSVIVT01011637001
GSVIVT01011642001
GSVIVT01011638001
GSVIVT01011641001
GSVIVT01030940001
AT1G15125.1
Sme2.5 00433.1 g00002.1
Sme2.5 00433.1 g00004.1
Sme2.5 00433.1 g00005.1
NbS00061779g0005.1
Solyc02g091140.3.1
PGSC0003DMP400058632
NbS00042406g0003.1
Solyc10g061840.2.1
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GSVIVT01018916001
Cc01 g02230
Cc08 g06420
Cc00 g14730
Cc00 g34720

FIG. 4

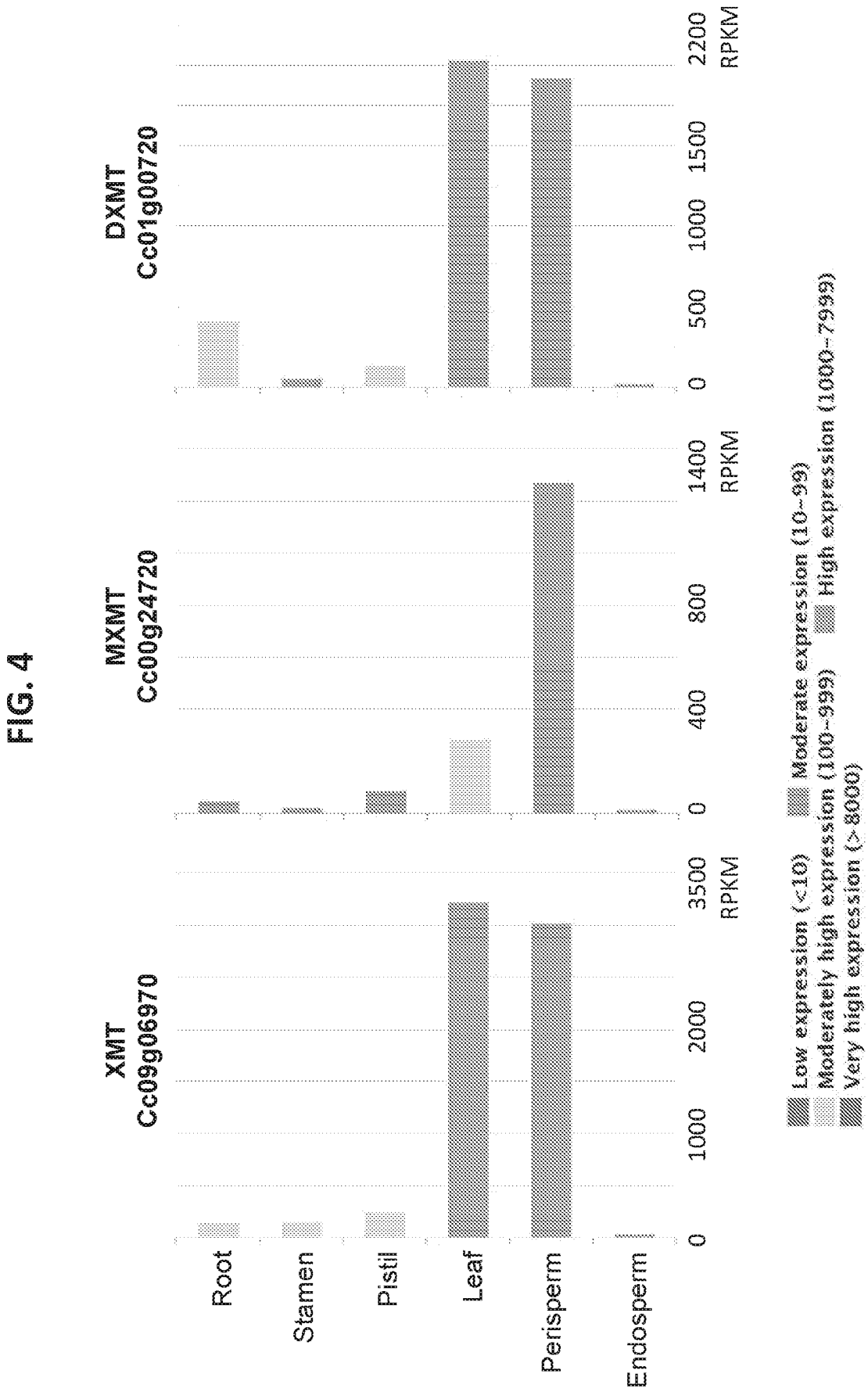

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MXMT
Cc00g24720
DXMT
Cc01g00720
Root
Stamen
Pistil
Leaf
Perisperm
Endosperm
0
1000
2000
3500
RPKM
0
400
800
1400
RPKM
0
500
1000
1500
2200
RPKM
Low expression (<10)
Moderate expression (10-99)
Moderately high expression (100-999)
High expression (1000-7999)
Very high expression (>8000)

FIG. 5

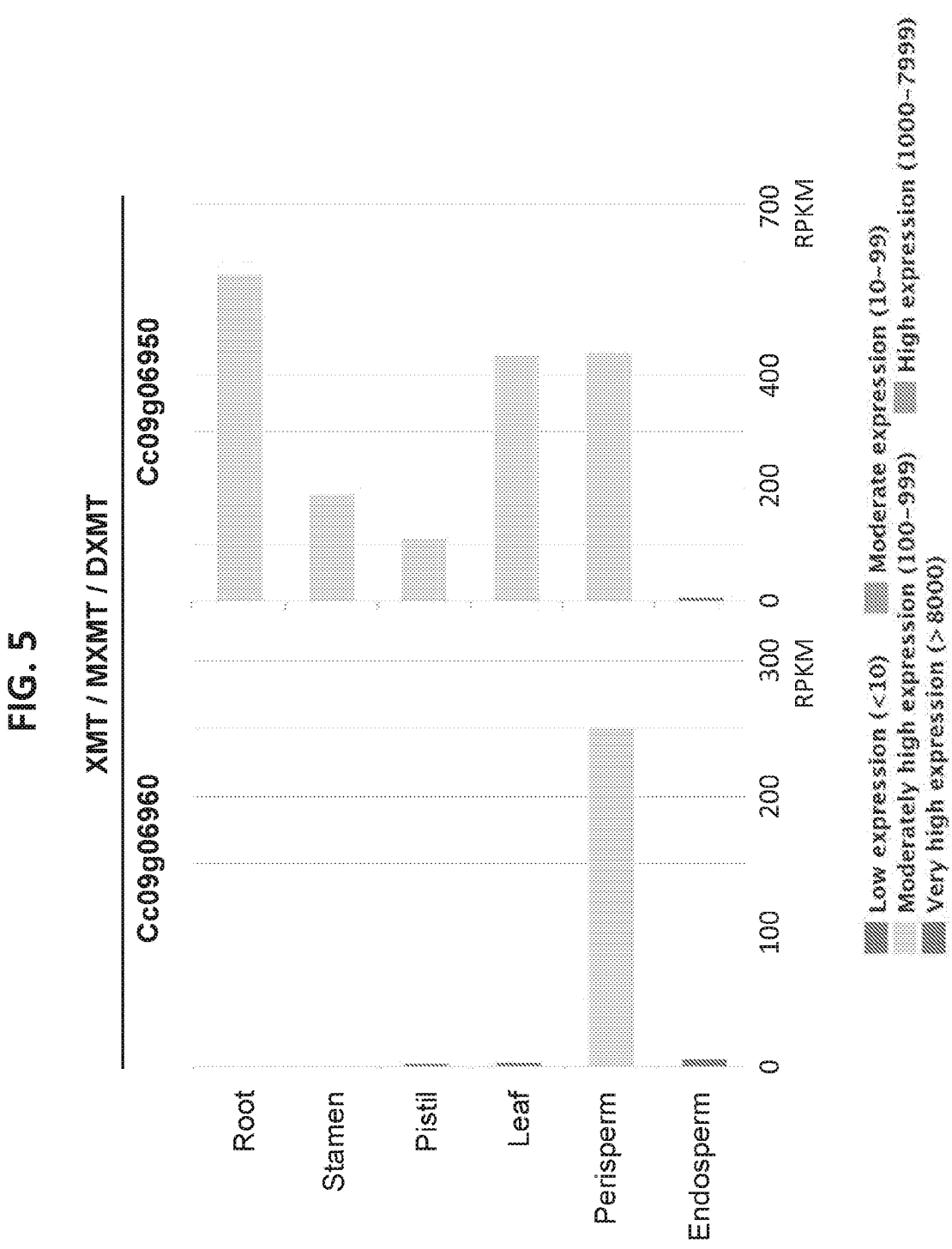

XMT / MXMT / DXMT
Cc09g06960
Cc09g06950
Root
Stamen
Pistil
Leaf
Perisperm
Endosperm
0
100
200
300
RPKM
0
200
400
700
RPKM
Low expression (<10)
Moderate expression (10~99)
Moderately high expression (100~999)
High expression (1000~7999)
Very high expression (>8000)

FIG. 6

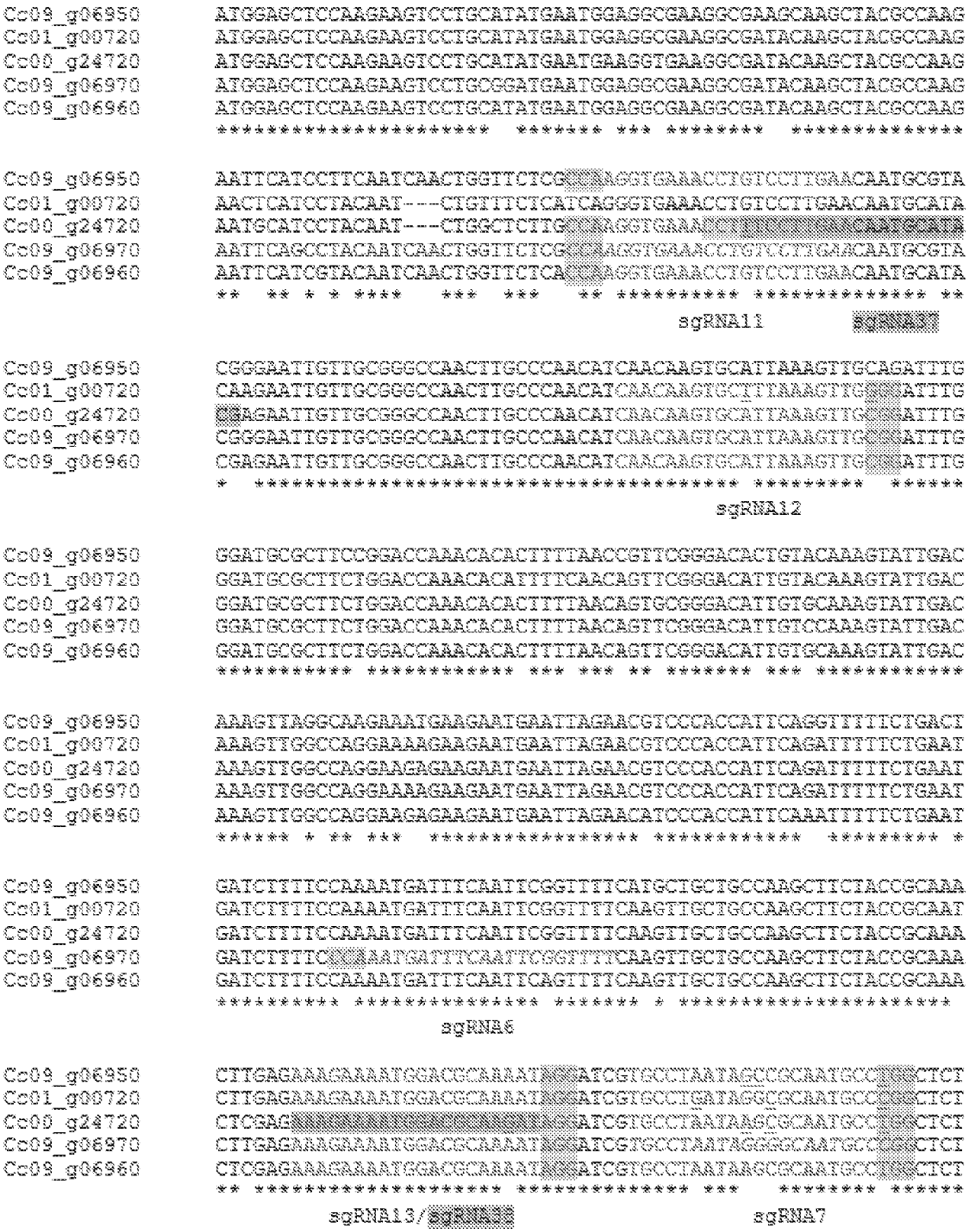

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Cc01_g00720
Cc00_g24720
Cc09_g06970
Cc09_g06960
sgRNA11
sgRNA12
sgRNA6
sgRNA13/sgRNA14
sgRNA7

FIG. 6 continuation (1)



FIG. 6 continuation (2)

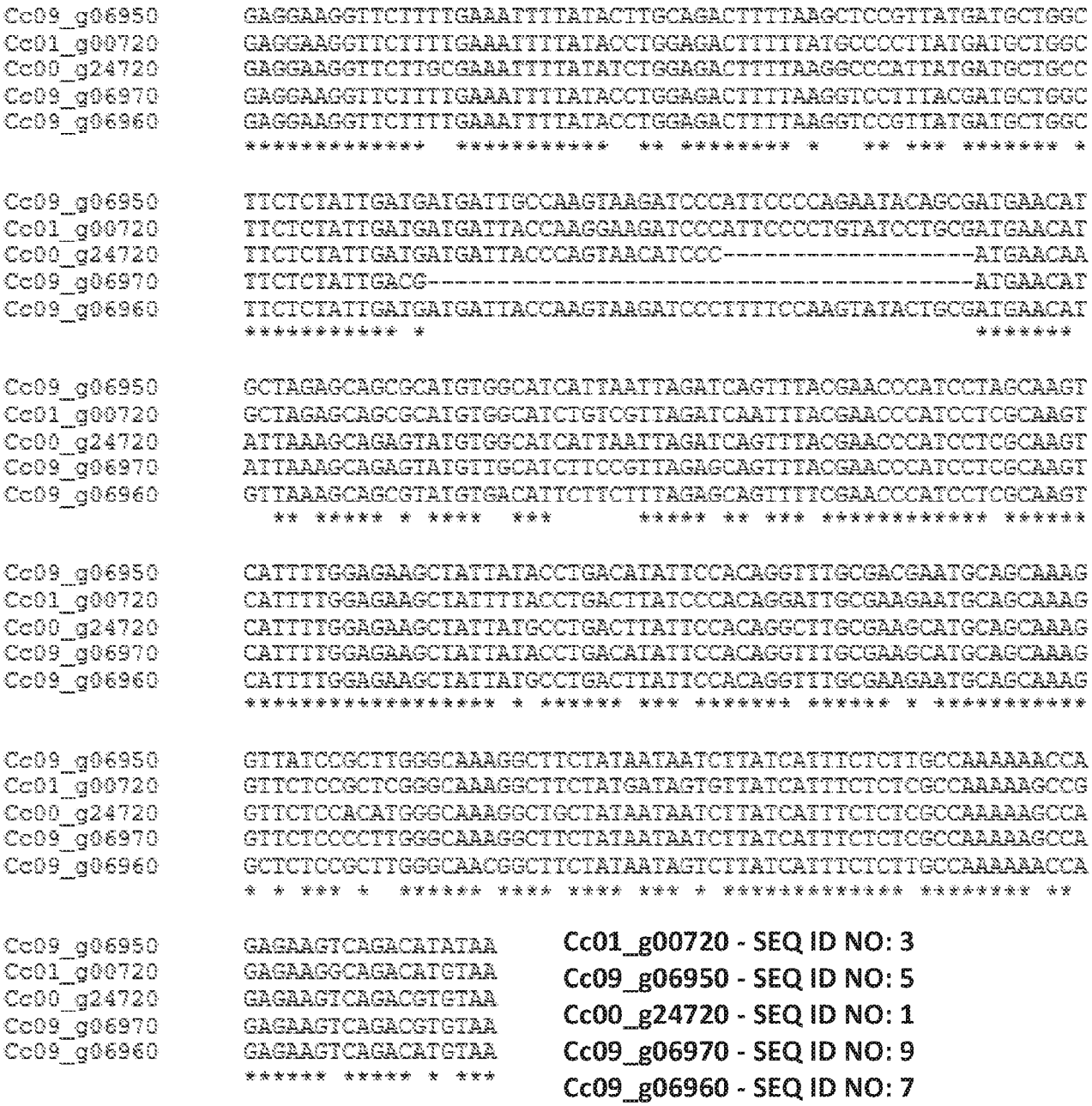


FIG. 7A

XMT Cc09_g06970 - SEQ ID NO: 25

Cc09_g06970

ATGGAGCTCCAAGAAGTCCTGCGGATGAATGGAGGCGAAGGCGATACAAGCTACGCCAAGAATTCAGCCTACAATGTCTGTCTGTCTCTCTATCTC
TCTTTAACACACACACACACAGAGTAGTAGTAAATCATGCTATGATACGTCGATCTCTAACTTAGTATGTCTTTTTTCCCCCCTTAACATTTGTATT
TTGGAGTGGTATGTGTAGCAACTGGTTCTCGCCAAGGTGAAACCTGTCCTTGAACAATGCGTACGGGAATTGTTGCGGGCCAACTTGCCCAACATC
AACAAGTGCATTAAAGTTGCGGATTTGGGATGCGCTTCTGGACCAAACACACTTTTAACAGTTCGGGACATTGTCCAAAGTATTGACAAAGTTGG
CCAGGAAAAGAAGAATGAATTAGAACGTCCCACCATTCAGATTTTTCTGAATGATCTTTTCCCAAATGATTTCAATTCGGTTTTCAAGTTGCTGC
CAAGCTTCTACCGCAAACTTGAGAAAGAAAATGGACGCAAAATAGGATCGTGCCTAATAGGGGCAATGCCCGGCTCTTTCTACAGCAGACTCTTC
CCCGAGGAGTCCATGCATTTTTTACACTCTTGTTACTGTCTTCAATGGTTATCTCAGGTCTTTGAGTTAATCCCTTTTATCTTTTTAATTTTTCTT
GTAGCAAAAATAGTTCATGATTTTCATTCAACACATTAGTAACTATGCACGGAAATTTCTTTAATAATTCTCAAGATATCCACAGGAATCCAAGAA
AGAGATTTCTGAAGAAACTAATAACATATTTTATTCAAGTCGTGGCTCATGATTTATATTCCCACATGCAACACTAACAAAATGATCCAACTATAT
AAGTTACCAGCTCTGGACGTGCAGGTTCCTAGCGGTTTGGTGACTGAATCGGGGATCAGTACGAACAAAGGGAGCATTTACTCTTCCAAAGCAAGTC
GTCTGCCCGTCCAGAAGGCATATTTGGATCAATTTACGAAAGATTTTACCACATTTCTAAGGATT

11	CCAAGGTGAAACCTGTCCTTGAA	**SEQ ID NO: 26**
12	CAACAAGTGCATTAAAGTTGCGG	**SEQ ID NO: 27**
6	CCAAATGATTTCAATTCGGTTTT	**SEQ ID NO: 28**
13	AAAGAAAATGGACGCAAAATAGG	**SEQ ID NO: 29**
7	TGCCTAATAGGGGCAATGCCCGG	**SEQ ID NO: 30**
14	CCCGAGGAGTCCATGCATTTTTT	**SEQ ID NO: 31**

sgRNA target sequence

FIG. 7B

Cc09_g06960

XMT/MXMT/DXMT Cc09_g06960 - SEQ ID NO: 32

TCATTCGTGTCTGGTTCCCATTGGCTGTGCGCTTTCTTTCTGACCCATTGACAGACTTTTCTACGCACGTAACTAGCTGGTTAGCATACGCATCTATGAAATTTTC
GCTATTTAAGCCCGAAATTTTGCACAATTAATCATTAACAGACACCTTCTTTAGCCGTCGCAATTCGATTGTCCTGTATATGAATGGAGCTCCAAGAAGTCCTGC
ATATGAATGGAGGCGAAGGCGATACAAGCTACGCCAAGAATTCATCGTACAATGTCTGTCTGTCTATCTCTCTCTTTAACACACACACACACACAGAGTAGTAG
TAAATTATGCTATGATACGTTGATCTCTGACTTAGTATGTCTTTTTTCGCCCCTTAACATTTGTATTTTGGAGTGGTATGTGTAGCAACTGGTTCTCACCAAGGTG
AAACCTGTCCTTGAACAATGCATACGAGAATTGTTGCGGGCCAACTTGCCCAACATCAACAAGTGCATTAAAGTTGCGGATTTGGGATGCGCTTCTGGACCAA
ACACACTTTTAACAGTTCGGGACATTGTGCAAAGTATTGACAAAGTTGGCCAGGAAGAGAAGAATGAATTAGAACATCCCACCATTCAAATTTTTCTGAATGAT
CTTTTCCAAAATGATTTCAATTCAGTTTTCAAGTTGCTGCCAAGCTTCTACCGCAAACTCGAGAAAGAAAATGGACGCAAAATAGGATCGTGCCTAATAAGCGC
AATGCCTGGCTCTTTCTACGGCAGACTCTTCCCCGAGGAGTCCATGCATTTTTTGCACTCTTGTTACAGTGTTCATTGGTTATCTCAGGTCTTTGAGTTAATCCCT
TTTATCTTTTTACTTTTTCTTGTAGCAAAAATAGTTCATGATTTTCATTCAACACATTAGTAACTATGCATGGAAATTTCTTTAATAATTCTAAAGACATCCACAGG
AATCCAAGAAAGAGATTTCTGAAGAAACTAATAACATATTTTATTTAAGTCGTGGCTCATGATTTATATTCCCACATGCAACACTAACAAAATGATCCAACTATA
TAAGTTACCAGTTCTAGACGTGCAGGTTCCCAGCGGATTGGTGACTGAACTGGGGATCAGTGCGAACAAAGGGATCATTTACTCTTCCAAAGCAAGTCCTCCG
CCCGTCCAGAAGGCATATTTGGACCAATTTACAAAAGATTTTACCACATTTCTGAGGATTCATTCGGAAGAGTTGCTTTCAGGTGGCCGAATGCTCCTTACTTGC
ATTTGTAAAGGAGATGAATCCGATGGCCTGAATACCATAGACTTACTTGAGAGAGCAATAAACGACTTGGTTGTTGAGGTTATCATTTCTCTGTCTCTTTGATAA
TCAGATGCTCATTGCTTGTTATCTGAAATAAACTAGA

11	CCAAGGTGAAACCTGTCCTTGAA	**SEQ ID NO: 33**
12	CAACAAGTGCATTAAAGTTGCGG	**SEQ ID NO: 34**
13	AAAGAAAATGGACGCAAAATAGG	**SEQ ID NO: 35**
14	CCCGAGGAGTCCATGCATTTTTT	**SEQ ID NO: 36**

sgRNA target sequence

FIG. 7C

MXMT Cc00_g24720 - SEQ ID NO: 37

Cc00_g24720

GTGCGCTTTCTTTCTGACGAATTGACAGACTTTTCTACGCACGGAGGTAGCTGGCTAGCATACGCATCTATGAAATTTTCGCTACTTAAGCCCGAAATTTTGCAC
AATTAATCATTAACAGACACCTTCTTTAGCAGTCGCAATTCGATTGTCCTGCATATGAATGGAGCTCCAAGAAGTCCTGCATATGAATGAAGGTGAAGGCGATA
CAAGCTACGCCAAGAATGCATCCTACAATGTCTGTCTGTCTCTCTATCTCTCTTTAACACACACACACACAGAGAATAGTGGTAAATCATGCTATGATACGTCGA
TCTCTAACTTCACATTTGTATTTTGGACTGGTATGTGTAACAGCTGGCTCTTGCCAAGGTGAAACCT**TTCCTTGAACAATGCATACG**AGAATTGTTGCGGGCCAA
CTTGCCCAACAT**CAACAAGTGCATTAAAGTTG**CGGATTTGGGATGCGCTTCTGGACCAAACACACTTTTAACAGT**G**CGGGACATTGTGCAAAGTATTGACAAA
GTTGGCCAGGAAGAGAAGAATGAATTAGAACGTCCCACCATTCAGATTTTTCTGAATGATCTTTTCCAAAATGATTTCAATTCGGTTTTCAAGTTGCTGCCAAGC
TTCTACCGCAAACTCGAG**AAAGAAAATGGACGCAAGAT**AGGATCGTGCCTAATAAGCGCAATGCCTGGCTCTTTCTACGGCAGACTCTTCCCC**GAGGAGTCCA**
TGCATTTTTTGCACTCTTGTTACAGTGTTCATTGGTTATCTCAGGTCTTTGAGTTAATCCCTTTTATCTTTTTACTTTTTCTTGTAGCAAAAATGGTTCGTGATTTTC
ATTCAACACATTAGTAACTATGCATGGAAATTTCTTTAATAATTCTAAAGATATCCACAGGAATCCAAGAAAGAGATTTCTGAAGAAACTAATAACATATTTTAT
C**T**AAGTCGTGGCTCATGATTTACATTCCCACATGCAACACTAACAAAATGATCCAACTATATAAGTTACCAGTTCTGGACGTGCAGGTTCCCAGCGGTTTGGTGA
TTGAATTGGGGATTGGTGCAAACAAAGGGAGTATTTACTCTTCCAAAGGATGTCGTC

37	CCTTTCCTTGAACAATGCATACG	**SEQ ID NO: 38**
12	CAACAAGTGCATTAAAGTTGCGG	**SEQ ID NO: 39**
38	AAAGAAAATGGACGCAAGATAGG	**SEQ ID NO: 40**
14	CCCGAGGAGTCCATGCATTTTTT	**SEQ ID NO: 41**

sgRNA target sequence

FIG. 7D

XMT/MXMT/DXMT Cc09_g06950 - SEQ ID NO: 42

Cc09_g06950

TTTATCCCAATTGTGTGTGGTTCCCATTGGCTGTGCTCTTTCTCTCTGACCAATTGACAGATTTTTCTACGCACGTAGTTAGCCGGTTAGCATACGCATCTAAGAA
ATTTTCGCCATTTAAGTCCGAAATTTCGCACAGTTAATCATTAACAGACACCTTCCTTAGCAGTCCCAATTCGATTTATGTACAAGTCCTGCATATGAATGGAGCT
CCAAGAAGTCCTGCATATGAATGGAGG**C**G**A**AGGCGAAGCAAG**CTA**CGCCAAGAATTCATCCTTCAATGTCTGTCTATCTGTCTATCTCTCTCTTTAACACACACA
CACACACACACAGAGTAGTAGTAAATCATGCTATGATACGTCGATCTCTAACTTAGTATGTCTTTTTTCGCCCCTTAACATTTGTATTTTGGAGTGGTATGTGTAG
CAACTGGTTCTCGCCA**AGGTGAAACCTGTCCTTGAA**CAATGCGTACGGGAATTGTTGCGGGCCAACTTGCCCAACATCAACAAGTGCATTAAAGTTGCA**G**ATT**T**
GGGATGCGCTTCCGGACCAAACACACTTTTAAC**C**GTTCGGGACACTGTACAAAGTATTGACAAAGTTAGGCAAGAAATGAAGAATGAATTAGAACGTCCCACC
ATTCAGGTTTTTCTGACTGATCTTTTCCAAAATGATTTCAATTCGGTTTTCATGCTGCTGCCAAGCTTCTACCGCAAACTTGAG**AAAGAAAATGGACGCAAAATA**
GGATCGTGCCTAATAGCCGCAATGCCTGGCTCTTTCCACGGCAGACTCTTCCCC**GAGGAGTCCATGCATTTTTT**ACACTCTTCTTACAGTCTTCAGTTTTTATCCC
AGGTCTTTGAATTACTCCCTTTTATCTTTTTACTTTTTCTTGTAGCAAAAATAGTTCATGATTTTCATTCAACACATTAGTTACTATGCATGGAAATTTCTTTAATAA
TTCTCAAGATATCCACAGGAATCCAAGAAAGAGATTTCTAAAGGGAACCAGCTTTAGACTGCAGGTTCCCAGCGGTTTGGTGACTGAATTGGGGATCACTGCG
AACAAAAGGAGCATTTACTCTTCCAAAGCAAGTCCTCCGCCCGTCCAGAAGGCATATTTGGATCAATTTACGAAAGATTTTACCACATTTTTAAGGATGCGTTCG
GAAGAGTTGCTTTCACGTGGCCGAATGCTCCTTACTTGCATTTGTAAAGGAGATGAATGCGACGGCCCGAATACCATGGACTTACTTGAGATGGCAATAAACG
ACTTGGTTGTTGAGGTTAATCATTTCTCTGTCTCTTTGATGATCAGATGCTCATT

11	CCAAGGTGAAACCTGTCCTTGAA	**SEQ ID NO: 43**
13	AAAGAAAATGGACGCAAAATAGG	**SEQ ID NO: 44**
14	CCCGAGGAGTCCATGCATTTTTT	**SEQ ID NO: 45**

sgRNA target sequence

FIG. 7E

DXMT Cc01_g00720 - SEQ ID NO: 46

Cc01_g00720

AAAACAAACGAAAGTGACTTCATTATCTCTAACCTCCGATTTTTATCATTAGTGGCTTGTTCCCATTGGCTGTGCGCTTCCTTTCTGACTAATTGATAGACTTTCTA
CGCACGTAGGTAGGCAGCTAGCATACGCATCTATGAAATTTTCGCTATTTAAGCCCGAAATTTCGCACAATTAATCATTAACAGATACCTTCTTTAGCAGTCCCA
ATTCGATTTATGCACAAGTCCTGCGTATGAATGGAGCTCCAAGAAGTCCTGCATATGAATGGAGGCGAAGGCGATACAAGCTACGCCAAGAACTCATCCTACA
ATGTCTGTCTGTCTCTCTATCTCTCTCTTTAACACACACACACACACACACAGAGTAGTAGTAAATCATGCTATGATACGTCGATCTCTAACTTAGTATGTCTTTTT
TCCCCCTTAACATTTGTATTTTGGAGTGGTATGTGTTGCAGCTGTTTCTCATCAGGGTGAAACCTGTCCTTGAACAATGCATACAAGAATTGTTGCGGGCCAACT
TGCCCAACATCAACAAGTGCTTTAAAGTTGGGGATTTGGGATGCGCTTCTGGACCAAACACATTTTCAACAGTTCGGGACATTGTACAAAGTATTGACAAAGTT
GGCCAGGAAAAGAAGAATGAATTAGAACGTCCCACCATTCAGATTTTTCTGAATGATCTTTTCCAAAATGATTTCAATTCGGTTTTCAAGTTGCTGCCAAGCTTC
TACCGCAATCTTGAG**AAAGAAAATGGACGCAAAAT**AGGATCGTGCCTGATAGGCGCAATGCCCGGCTCTTTCTACAGCAGACTCTTCCCC**GAGGAGTCCATG**
CATTTTTTACACTCTTGTTACTGTTTGCATTGGTTATCTCAGGTCTTTGAGTTAATCCCTTCTATCTTGTTTACTTTTTCTTGTAGCAAAAATAAGTTCACGATTTTT
ATTCAACACATTAGTAACTATGCATGGAAATTTCTTTAATAATTCTCAAGATATCCACAGGAATCCAAGAAAGAGATTTCTGACGAAACTAATAACACATTTTATT
TAATTCGTGGCTCATGATTTATATTCCCACATGCAACACTAACAAAATGATCCAACTATATAAGTTACCAGCTCTAGACGTGCAGGTTCCCAGCGGTTTGGTGAC
TGAATTGGGGATCAGTGTGAACAAAGGGTGCATTTACTCTTCCAAAGCAAGTCGTCCGCCCATCCAGAAGGCATATTTGGATCAATTTACGAAAGATTTTACCA
CATTTCTGA

13 AAAGAAAATGGACGCAAAATAGG **SEQ ID NO: 47**

14 CCCGAGGAGTCCATGCATTTTTT **SEQ ID NO: 48**

sgRNA target sequence

FIG. 8A

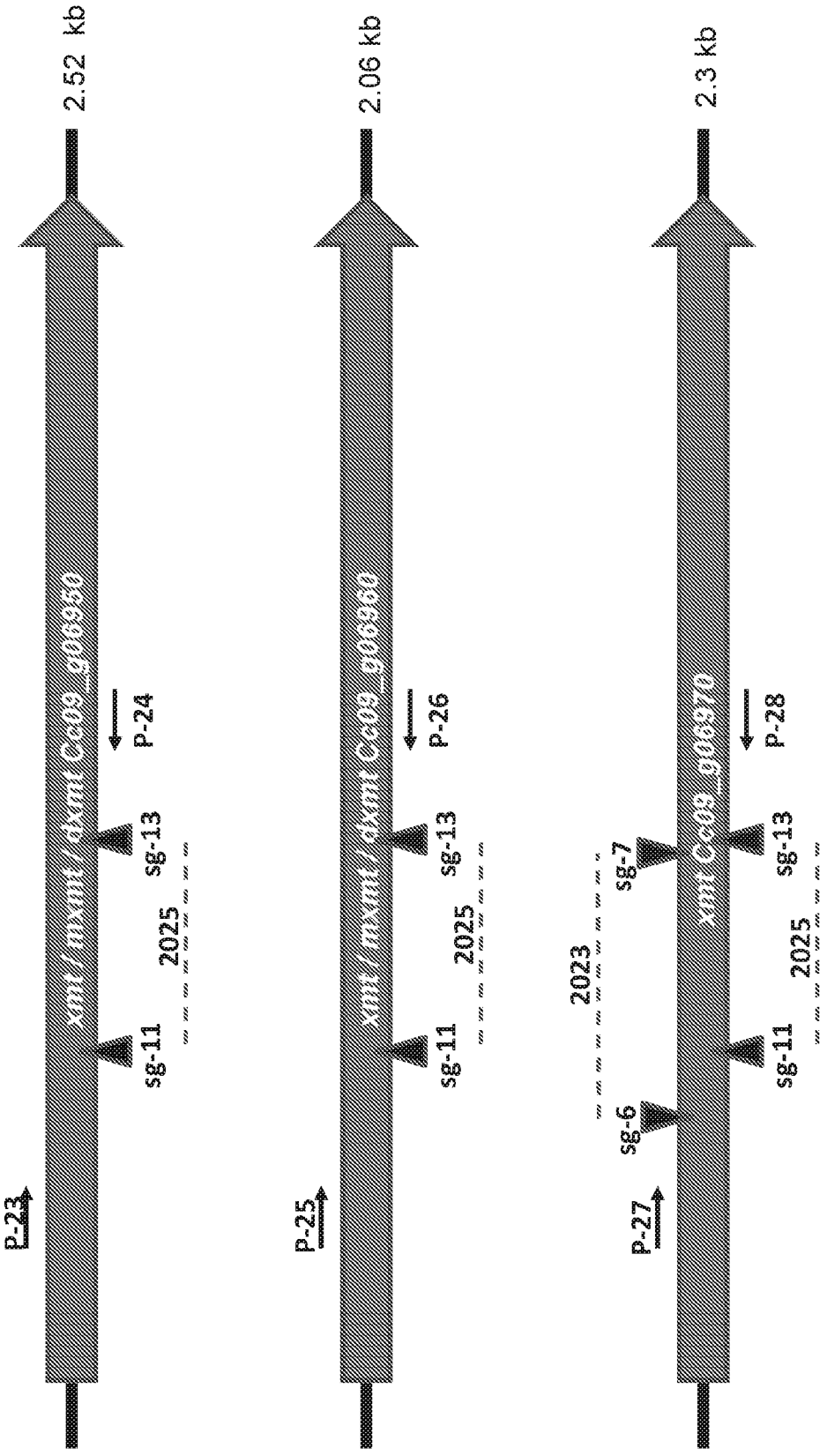
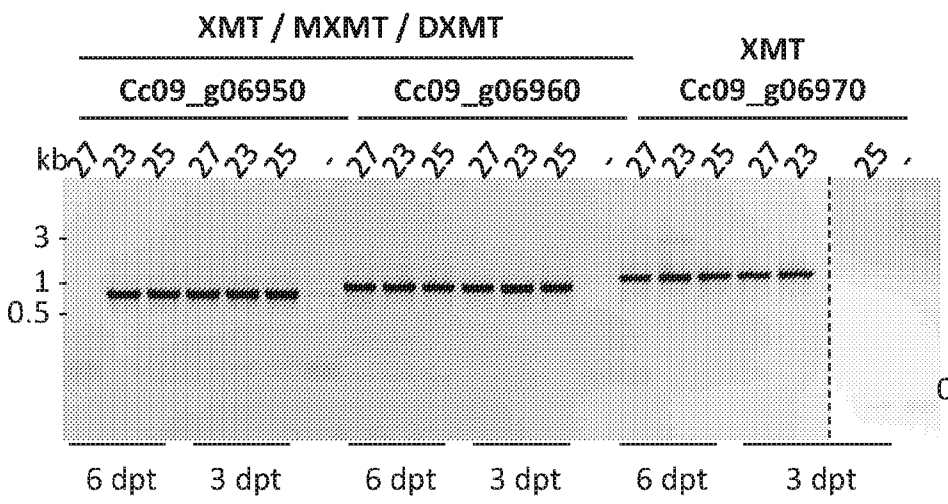
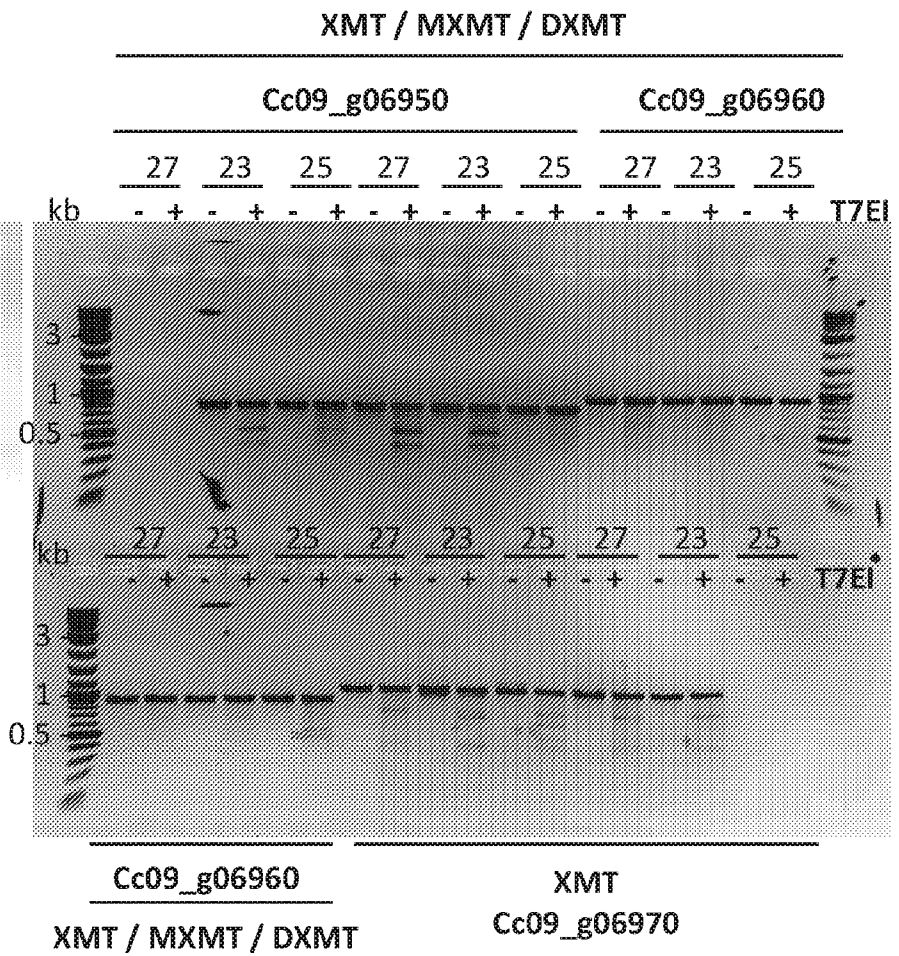

2.52 kb
2.06 kb
2.3 kb
xmt / mxmt / qxmt Ce03_g06960
xmt / mxmt / qxmt Ce03_g06960
xmt Ce09_g16970
P-23
P-24
P-25
P-26
P-27
P-28
sg-11
sg-13
sg-6
sg-7
2025
2023

FIG. 8B



27: Control
23: sgRNA pair 1
25: sgRNA pair 2

FIG. 8C



* Evidence of GE events in T7

** Evidence of GE events through cloning, sequencing and T7 (see Figure 8D)

FIG. 8D

2027 Ctrl - SEQ ID NO: 7
2023-1 - SEQ ID NO: 7
2023-2 SEQ ID NO: 7
2023-3 SEQ ID NO: 79
2023-4 SEQ ID NO: 7
2023-5 SEQ ID NO: 7
2023-6 SEQ ID NO: 80
2023-7 SEQ ID NO: 7

XMT / MXMT / DXMT *Cc09g06960*

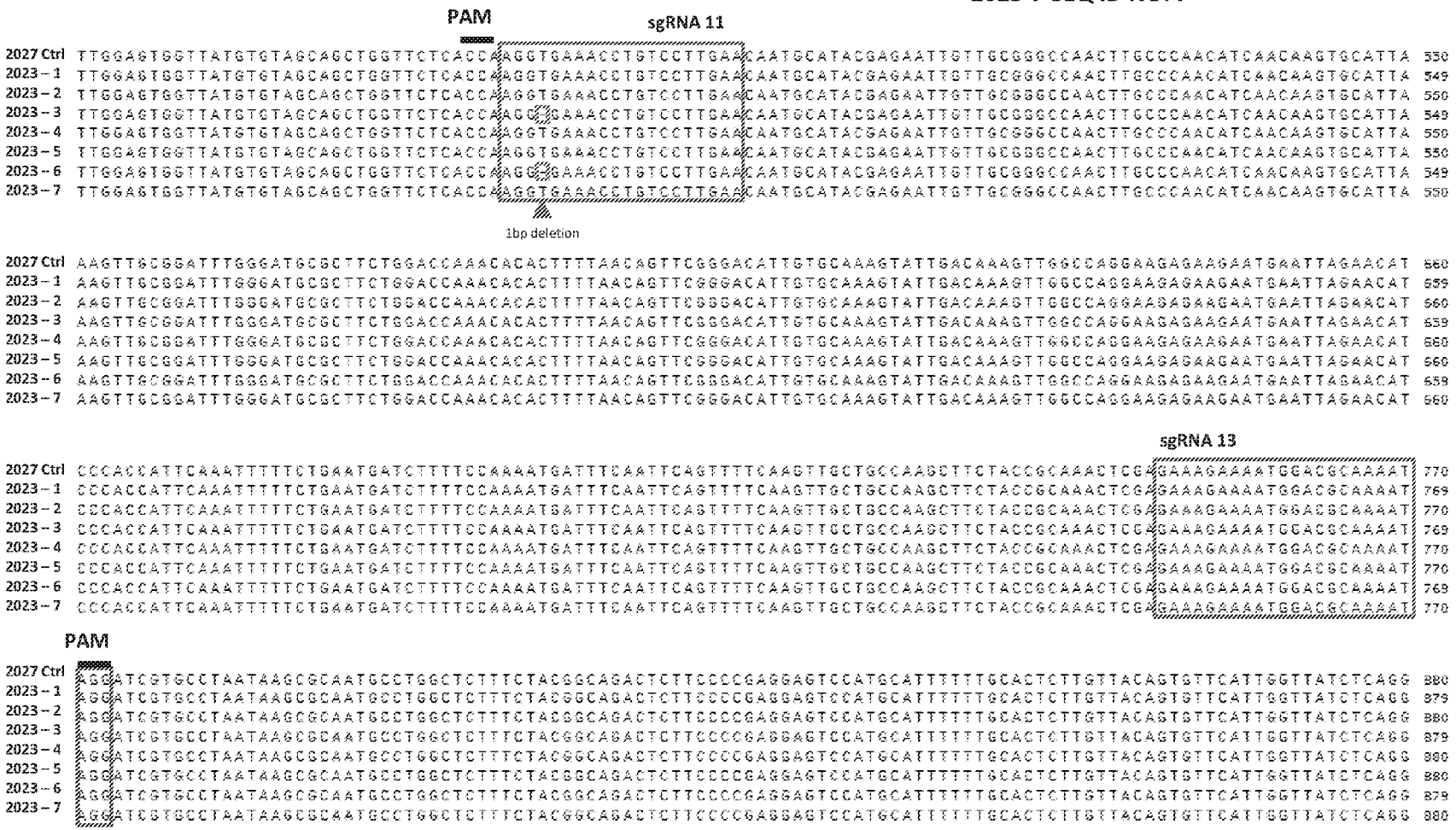


FIG. 8E

XMT *Cc09g06970*

2027 Ctrl - SEQ ID NO: 9
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2023-2 SEQ ID NO: 81
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2023-5 SEQ ID NO: 9
2023-6 SEQ ID NO: 84
2023-7 SEQ ID NO: 9

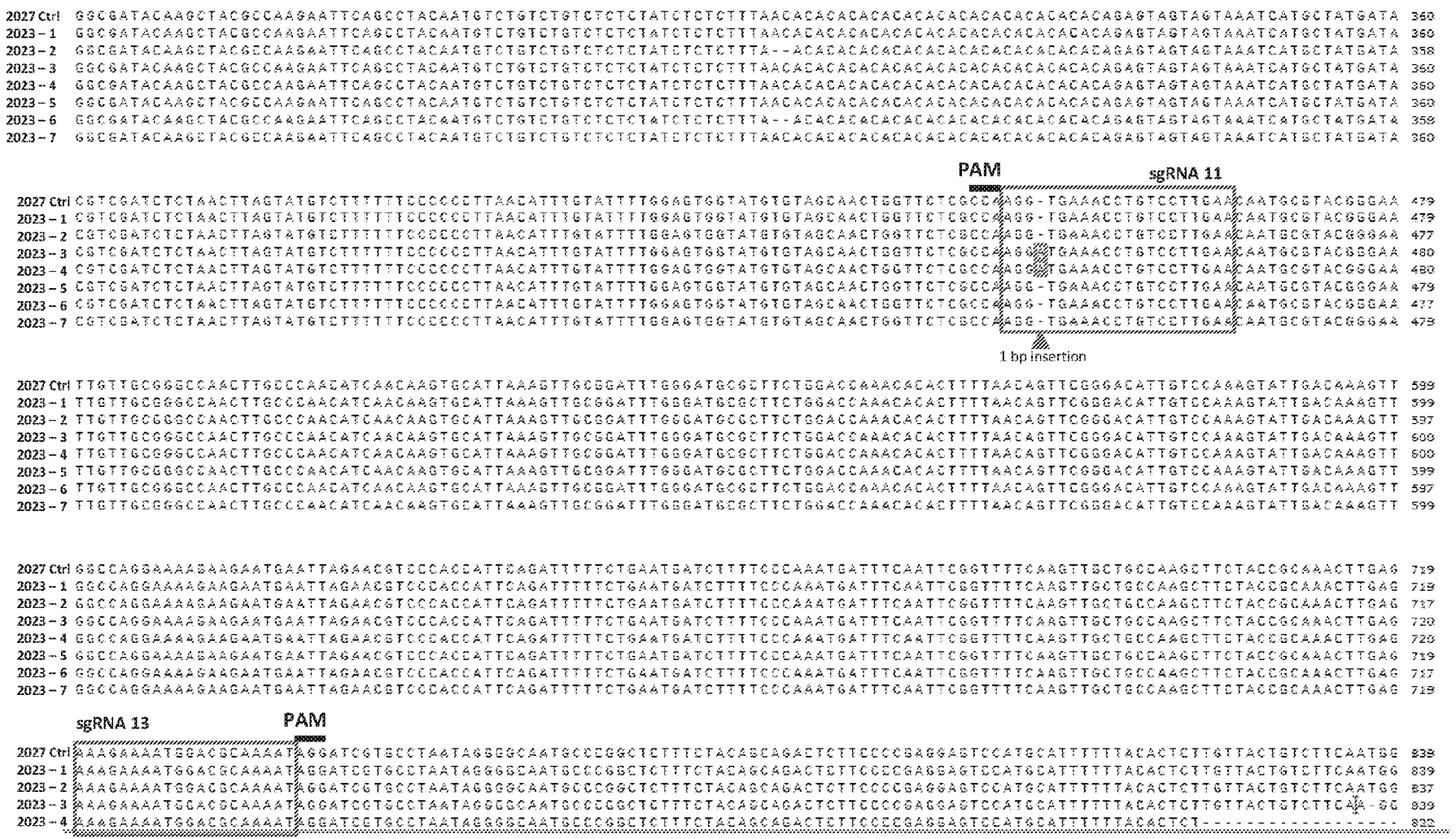


FIG. 8F

Cc09_g06950 - SEQ ID NO: 5
Cc09_g06950_2025 - SEQ ID NO: 85

XMT / MXMT / DXMT *Cc09g06950*

```
Cc09_g06950          CACACAGAGTAGTAGTAAAATCATGCTATGATACGTCGATCTCTAACTTAGTATGTCTTTT
Cc09_g06950_2025     CACACAGAGTAGTAGTAAAATCATGCTATGATACGTCGATCTCTAACTTAGTATGTCTTTT
                     ************************************************************

                                                                        PAM
Cc09_g06950          TTCGCCCCTTAACATTTGTATTTTGGAGTGGTATGTGTAGCAACTGGTTCTCGCCCAAGGT
Cc09_g06950_2025     TTCGCCCCTTAACATTTGTATTTTGGAGTGGTATGTGTAGCAACTGGTTCTCGCCCAAGG-
                     ************************************************************

                          sgRNA-11
Cc09_g06950          GAAACCTGTCCTTGAACAATGCGTACGGGAATTGTTGCGGGCCAACTTGCCCAACATCAA
Cc09_g06950_2025     ------------------------------------------------------------

Cc09_g06950          CAAGTGCATTAAAGTTGCAGATTTGGGATGCGCTTCCGGACCAAACACACTTTTAACCGT
Cc09_g06950_2025     ------------------------------------------------------------

Cc09_g06950          TCGGGACACTGTACAAAGTATTGACAAAGTTAGGCAAGAAATGAAGAATGAATTAGAACG
Cc09_g06950_2025     ------------------------------------------------------------

Cc09_g06950          TCCCACCATTCAGGTTTTTCTGACTGATCTTTTCCAAAATGATTTCAATTCGGTTTTCAT
Cc09_g06950_2025     ------------------------------------------------------------

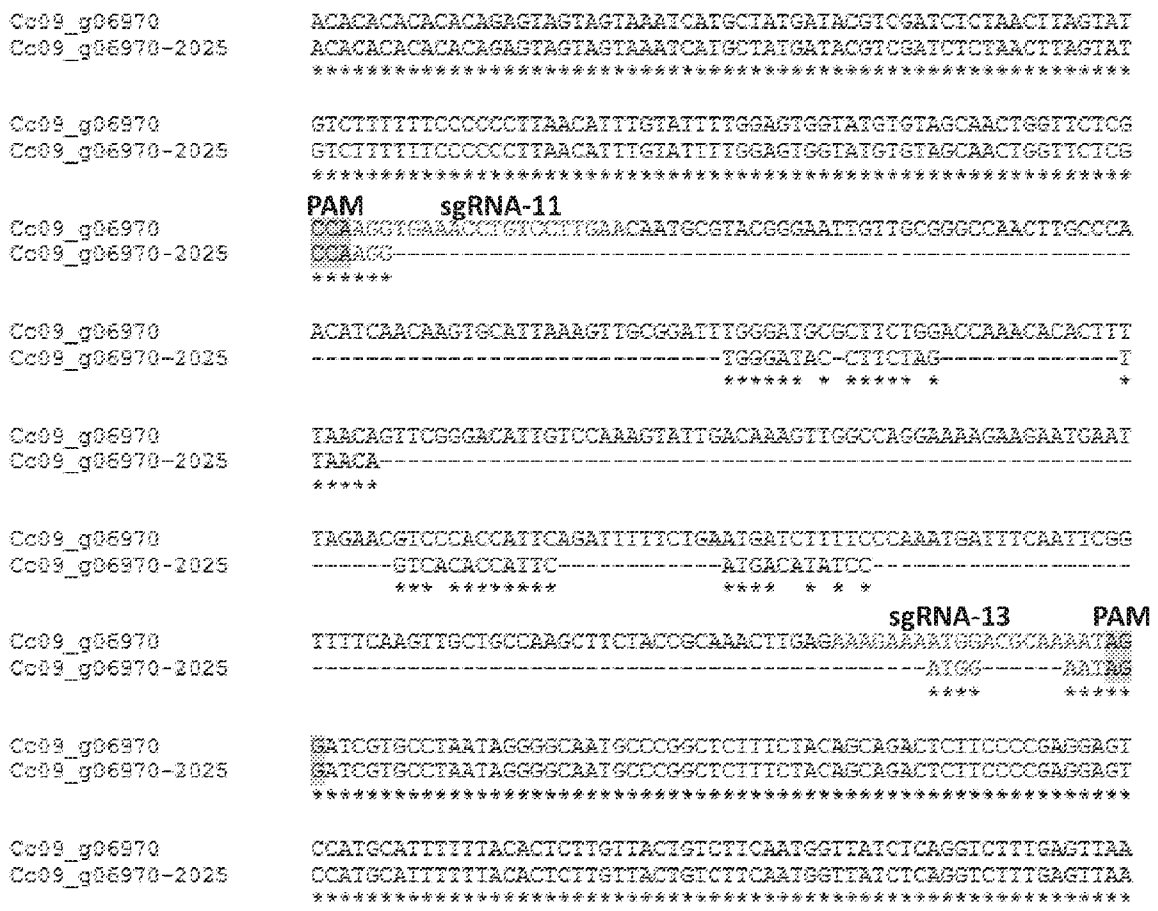
                                                        sgRNA-13      PAM
Cc09_g06950          GCTGCTGCCAAGCTTCTACCGCAAACTTGAGAAAGAAAATGGACGCAAAAATAGGATCGTG
Cc09_g06950_2025     ------------------------------------------------------AATAGGATCGTG
                                                                    ************

Cc09_g06950          CCTAATAGCCGCAATGCCTGGCTCTTTCCACGGCAGACTCTTCCCCGAGGAGTCCATGCA
Cc09_g06950_2025     CCTAATAGCCGCAATGCCTGGCTCTTTCCACGGCAGACTCTTCCCCGAGGAGTCCATGCA
                     ************************************************************
```

FIG. 8G

XMT *Cc09g06970*

Cc09_g06970 - SEQ ID NO: 9
Cc09_g06970_2025 - SEQ ID NO: 86



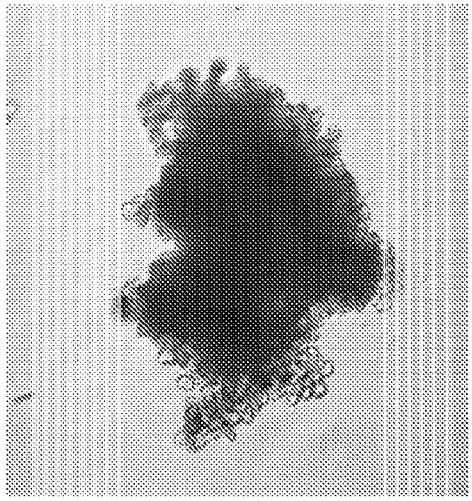


FIG. 9C

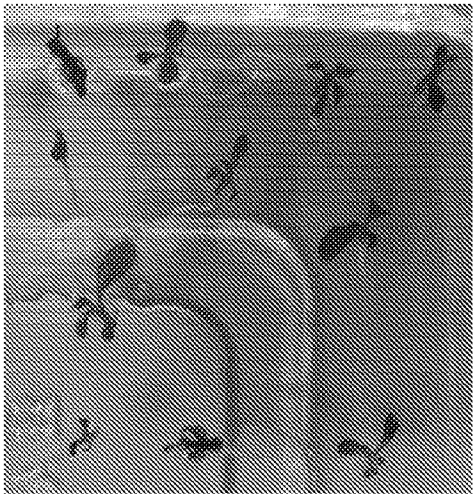


FIG. 9F

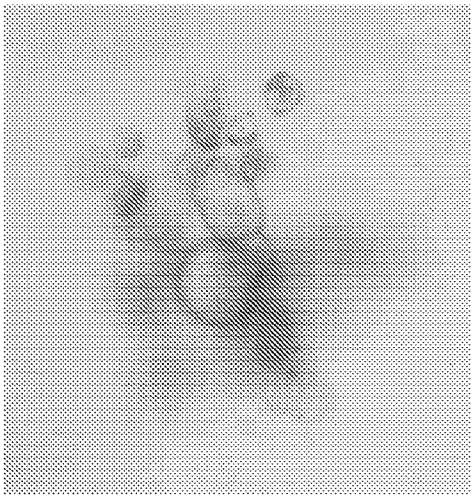


FIG. 9B



FIG. 9E

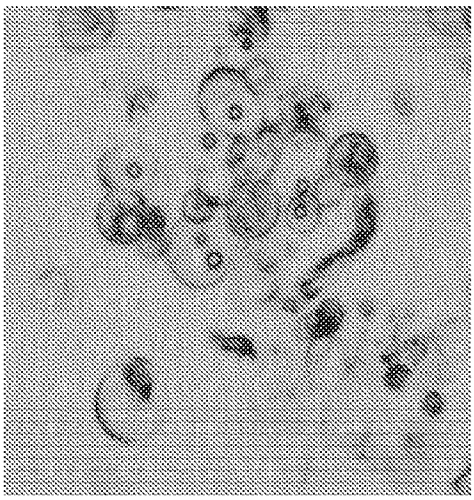


FIG. 9A

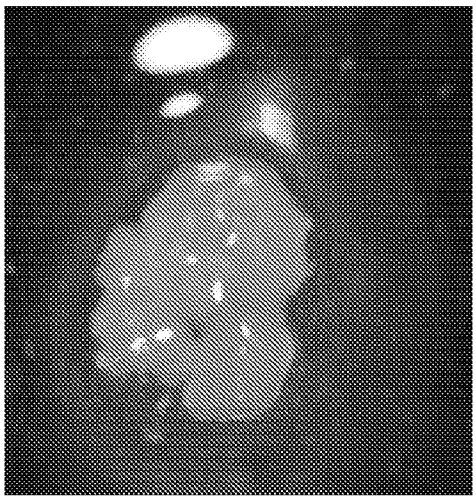


FIG. 9D

FIG. 10

Gene Name	Locus ID	sgRNAs
XMT	Cc09_g06970	1 – TTTGCACAATTAATCATTAAGGG (SEQ ID NO: 59)
		2 – CAAGAAGTCCTGCGGATGAATGG (SEQ ID NO: 60)
		3 – ACTTGTACATAAATCAAATTGGG (SEQ ID NO: 61)
		4 – CAAATTGGGACTGCCAAAGAAGG (SEQ ID NO: 62)
MXMT	Cc00_g24720	5 – GAAGTCCTGCATATGAATGAAGG (SEQ ID NO: 63)
		6 – GACGGGCGGACGACATCCTTTGG (SEQ ID NO: 64)
		7 – TTGGTGATTGAATTGGGGATTGG (SEQ ID NO: 65)
		8 – GGGAGTATTTACTCTTCCAAAGG (SEQ ID NO: 66)
DXMT	Cc01_g00720	9 – TCAACAAGTGCTTTAAAGTTGGG (SEQ ID NO: 67)
		10 – TGCTTTAAAGTTGGGGATTTGGG (SEQ ID NO: 68)
		11 – AAAATAGGATCGTGCCTGATAGG (SEQ ID NO: 69)
		12 – CGAACTGTTGAAAATGTGTTTGG (SEQ ID NO: 70)
XMT/MXMT/DXMT	Cc09_g06950	13 – CCTCGGGGAAGAGTCTGCCGTGG (SEQ ID NO: 71)
		14 – ACTTTGTACAGTGTCCCGAACGG (SEQ ID NO: 72)
		15 – ATTAGAACGTCCCACCATTCAGG (SEQ ID NO: 73)
		16 – ATGCGACGGCCCGAATACCATGG (SEQ ID NO: 74)
XMT/MXMT/DXMT	Cc09_g06960	17 – CATTCGGAAGAGTTGCTTTCAGG (SEQ ID NO: 75)
		18 – GTCTATGGTATTCAGGCCATCGG (SEQ ID NO: 76)
		19 – AGCGGATTGGTGACTGAACTGGG (SEQ ID NO: 77)
		20 – TCGGAAGAGTTGCTTTCAGGTGG (SEQ ID NO: 78)