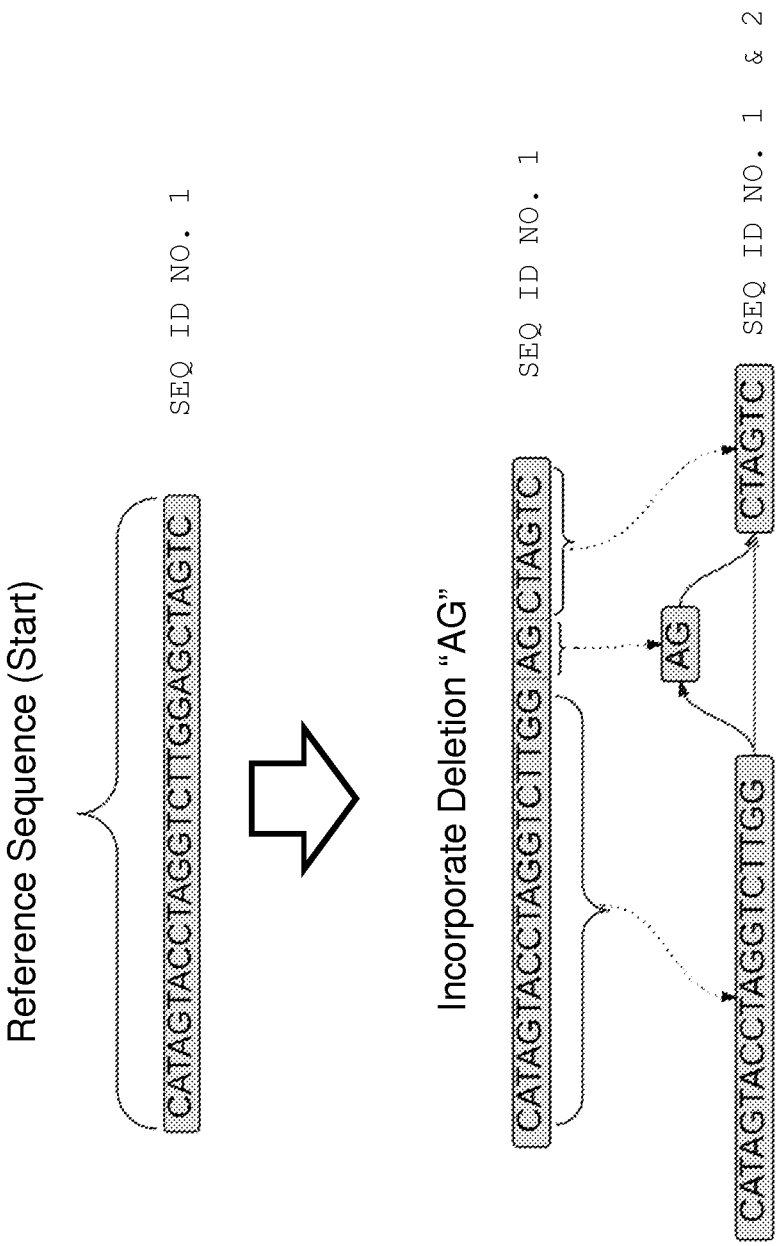

Reference Sequence (Start)
SEQ ID NO. 1
CATAGTACCTAGGTCTTGGAGCTAGTC
Incorporate Deletion "AG"
SEQ ID NO. 1
CATAGTACCTAGGTCTTGG AG CTAGTC
AG
SEQ ID NO. 1 & 2
CTAGTC
CATAGTACCTAGGTCTTGG

FIG. 1(A)

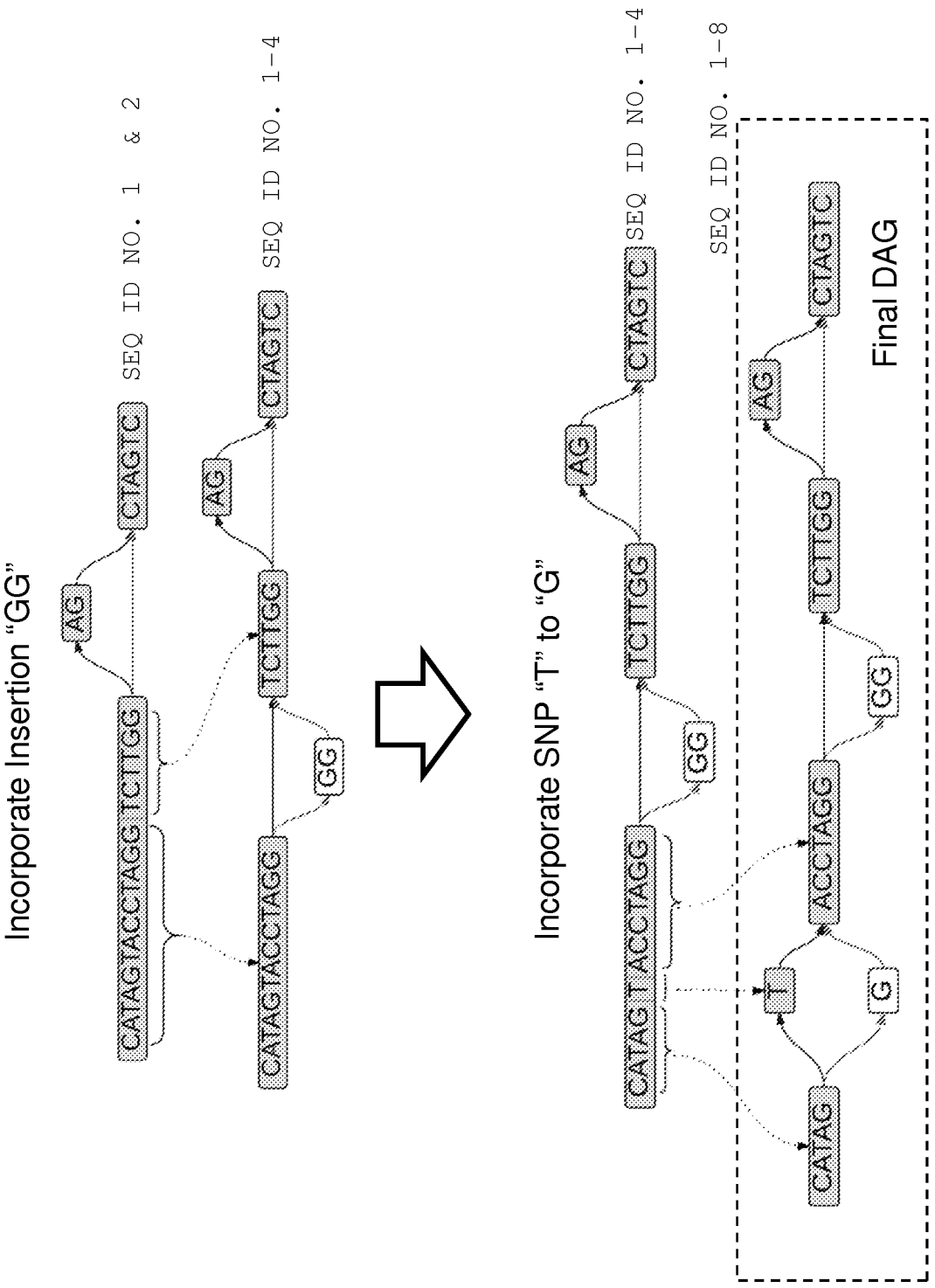

Incorporate Insertion "GG"
AG
CTAGTC
CATAGTACCTAGG TCTTGG
SEQ ID NO. 1 & 2
AG
CTAGTC
TCTTGG
GG
CATAGTACCTAGG
SEQ ID NO. 1-4
Incorporate SNP "T" to "G"
AG
CTAGTC
TCTTGG
GG
CATAG T ACCTAGG
SEQ ID NO. 1-4
SEQ ID NO. 1-8
AG
CTAGTC
TCTTCG
GG
T
ACCTAGG
G
CATAG
Final DAG

FIG. 1(B)

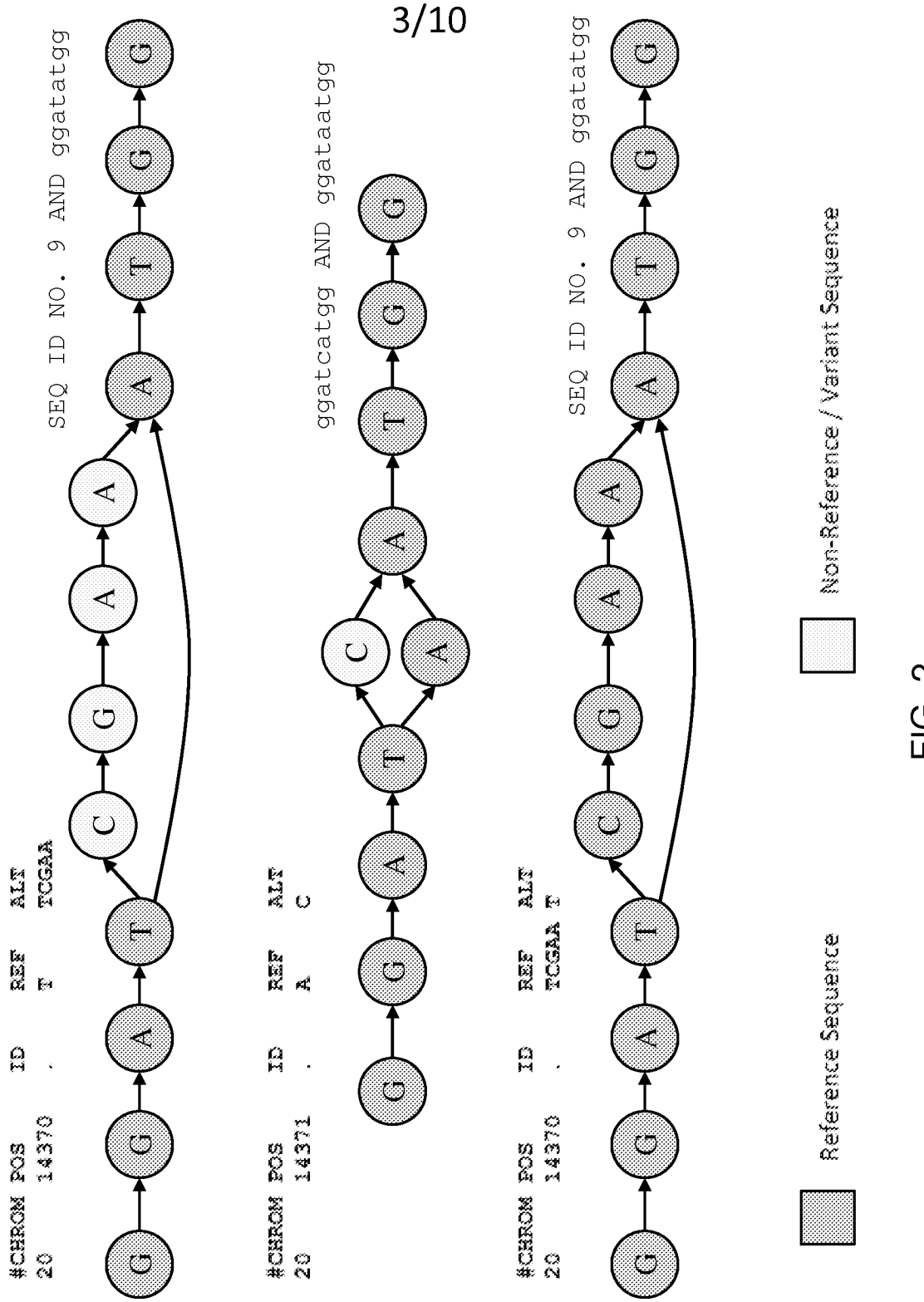

A.
#CHROM POS ID REF ALT
20 14370 . T TCGAA
SEQ ID NO. 9 AND ggatatgg
G G A T C G A A T G G
B.
#CHROM POS ID REF ALT
20 14371 . A C
ggatcatgg AND ggataatgg
G G A T C A T G G
C.
#CHROM POS ID REF ALT
20 14370 . TCGAA T
SEQ ID NO. 9 AND ggatatgg
G G A T C G A A T G G
Reference Sequence
Non-Reference / Variant Sequence

FIG. 2

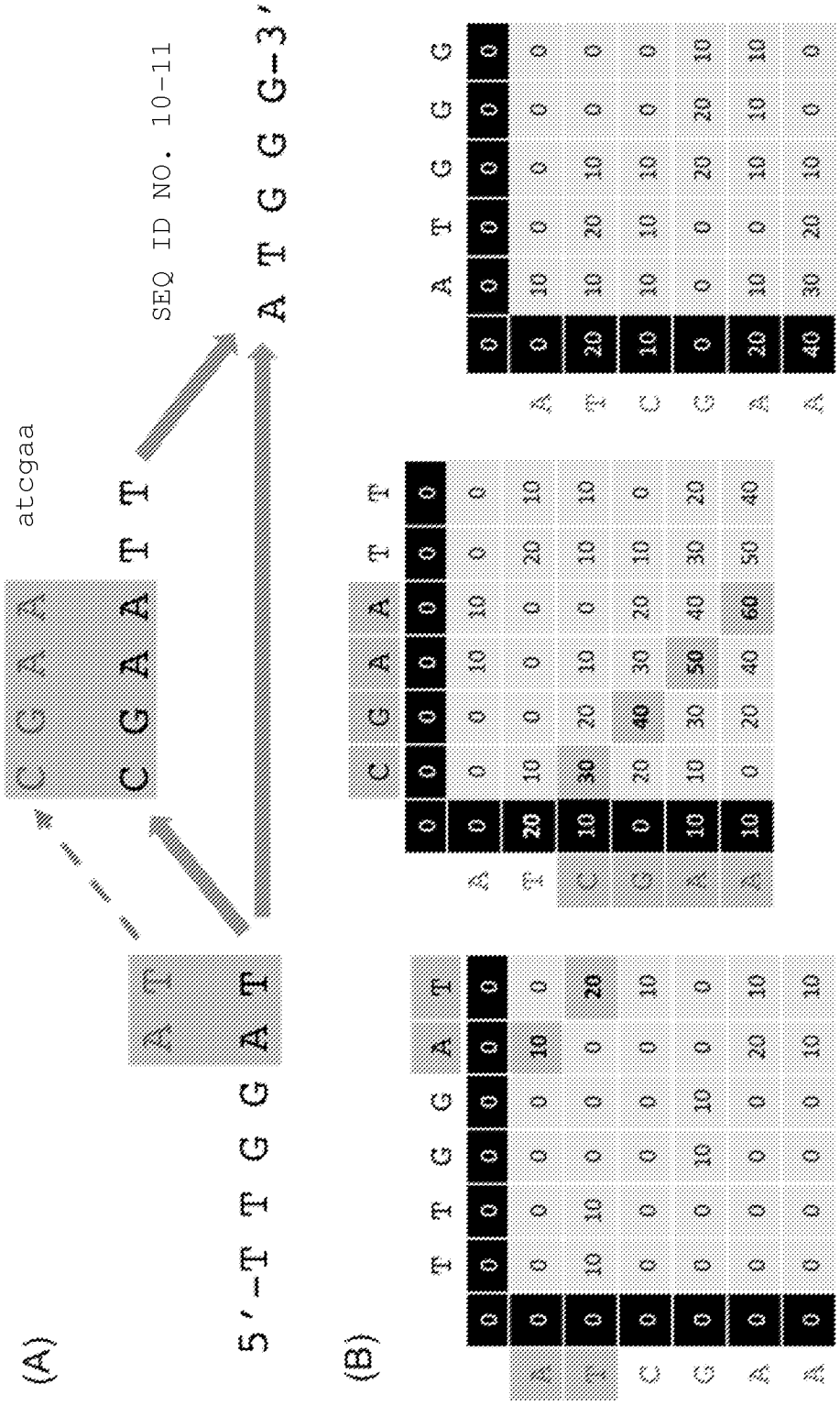

(A)
5'-T T G G A T
atcgaa
C G A A T T
SEQ ID NO. 10-11
A T G G G-3'
(B)
T T G G A T
C G A A T T
A T G G G C

FIG. 3

Alleles

#1) SEQ ID NO. 12: CCCAGAACGTTGCATCGTAGACGAGTTTCAGCATT

#2) SEQ ID NO. 13: CCCAGAACGTTGCTATGCAACAAGGGACATCGTAGACGAGTTTCAGCATT

insertion

Reference Sequence Construct #1

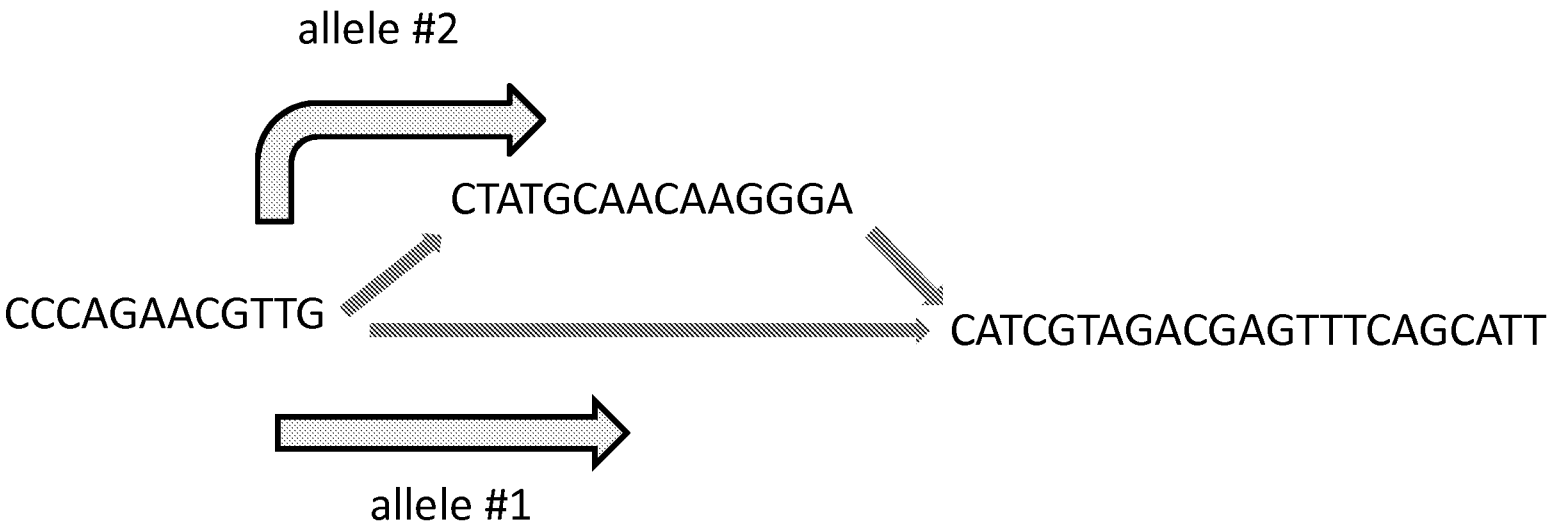


FIG. 4

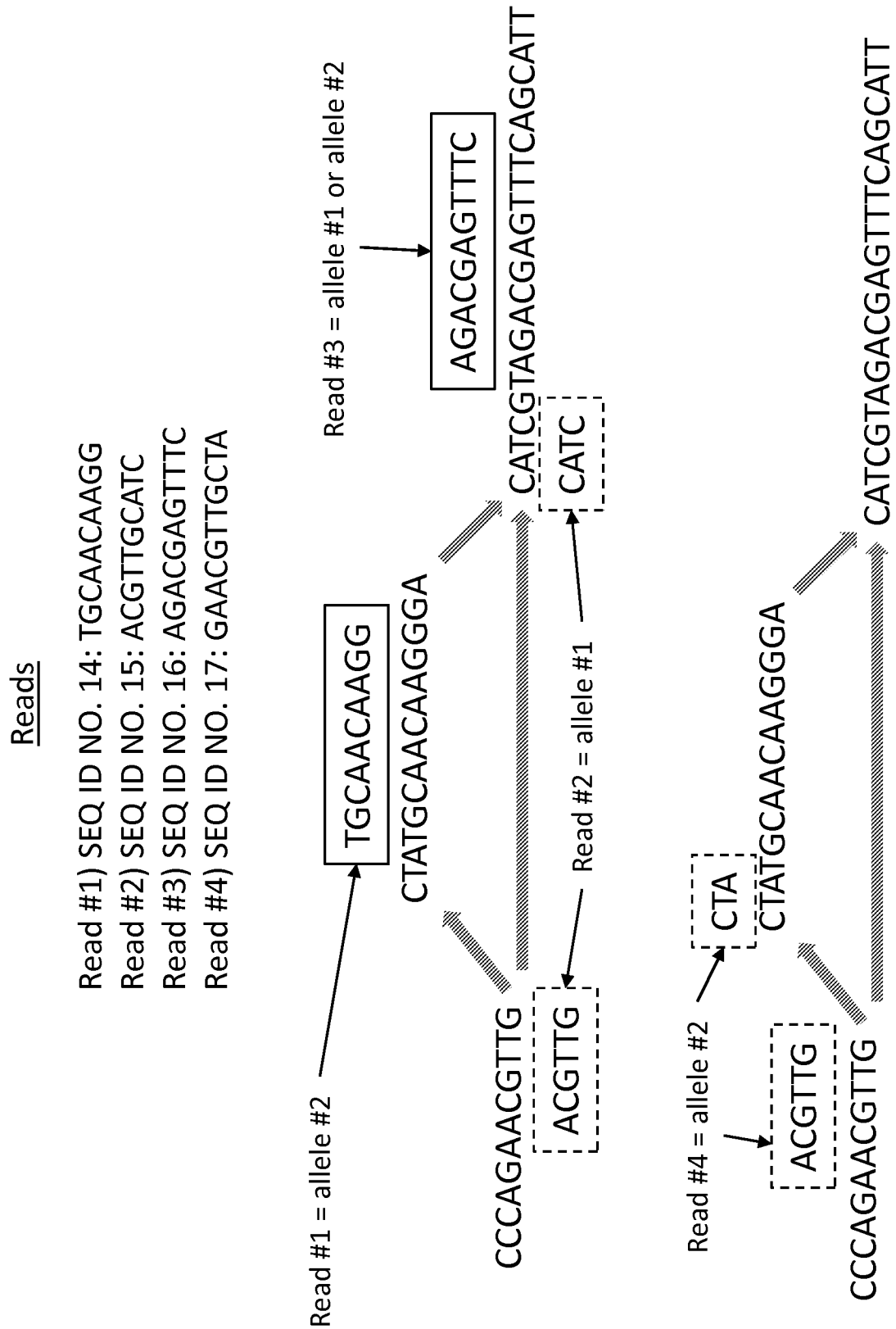

Reads
Read #1) SEQ ID NO. 14: TGCAACAAGG
Read #2) SEQ ID NO. 15: ACGTTGCATC
Read #3) SEQ ID NO. 16: AGACGAGTTTC
Read #4) SEQ ID NO. 17: GAACGTTGCTA
Read #1 = allele #2
TGCAACAAGG
CTATGCAACAAGGGA
CCCAGAACGTTG
ACGTTG
Read #2 = allele #1
Read #3 = allele #1 or allele #2
AGACGAGTTTC
CATCGTAGACGAGTTTCAGCATT
CATC
Read #4 = allele #2
CTA
CTATGCAACAAGGGA
ACGTTG
CCCAGAACGTTG
CATCGTAGACGAGTTTCAGCATT

FIG. 5

Alleles

#1) SEQ ID NO. 12: CCCAGAACGTTGCATCGTAGACGAGTTTCAGCATT
#2) SEQ ID NO. 13: CCCAGAACGTTGCTATGCAACAAGGGACATCGTAGACGAGTTTCAGCATT
#3) SEQ ID NO. 18: CCCAGAACGTTGCTATGCA**G**CAAGGGACATCGTAGACGAGTTTCAGCATT

polymorphism

Reference Sequence Construct #2

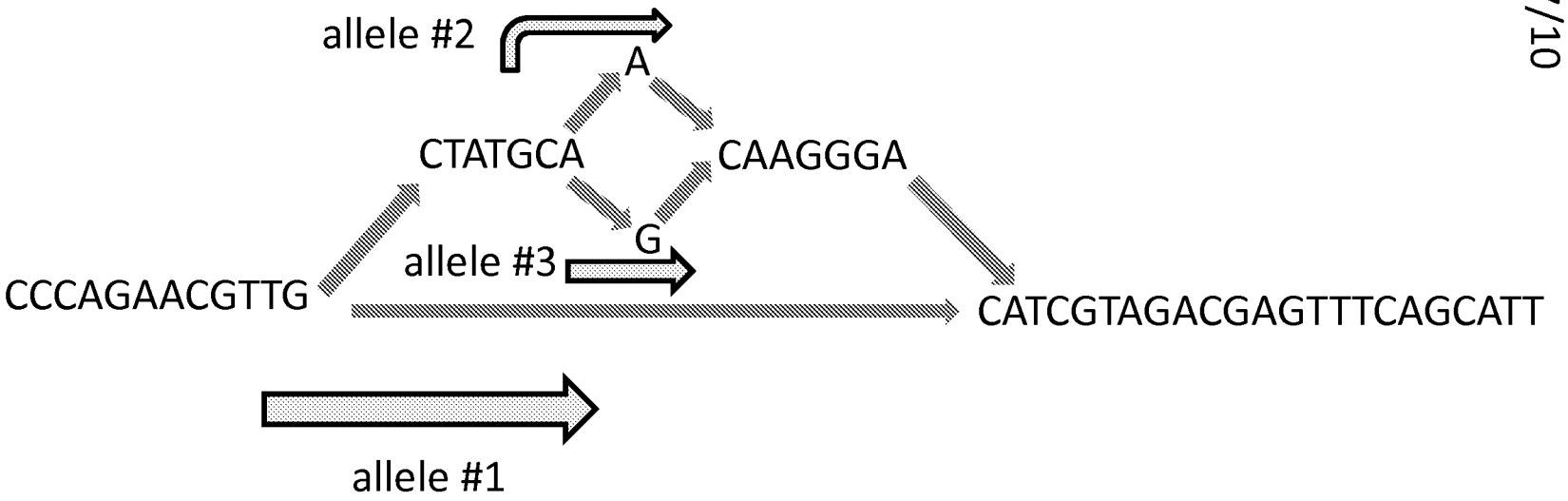


FIG. 6

Reads

Read #1) SEQ ID NO. 14: TGCAACAAGG
Read #2) SEQ ID NO. 15: ACGTTGCATC
Read #5) SEQ ID NO. 19: TGCAGCAAGG

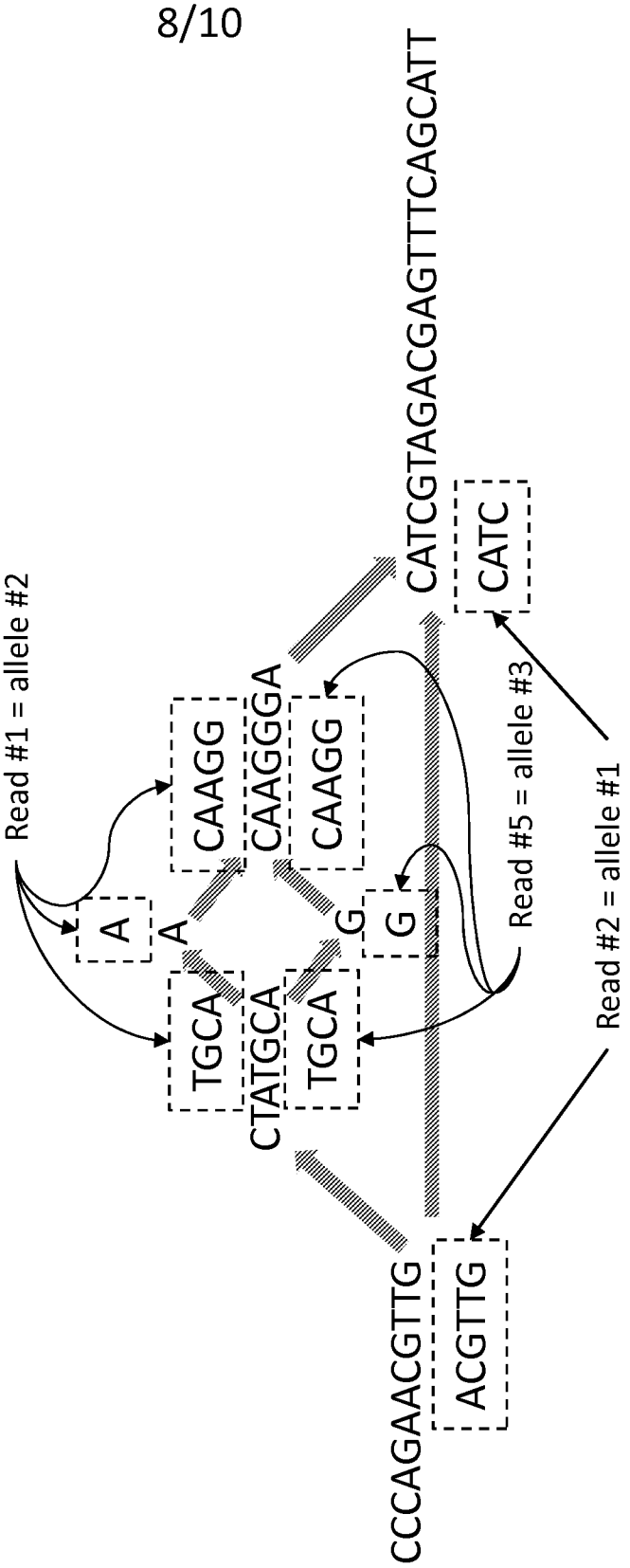


FIG. 7

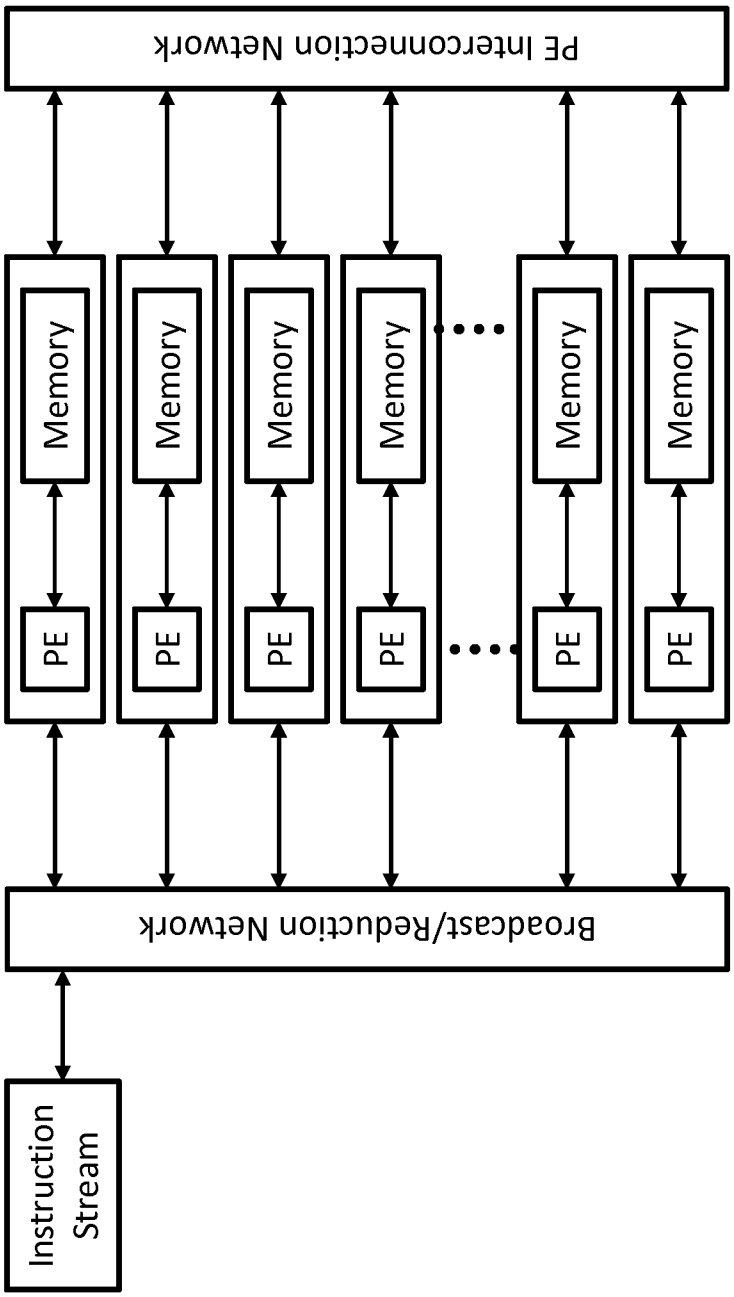

PE Interconnection Network
Memory
PE
Broadcast/Reduction Network
Instruction Stream

FIG. 8

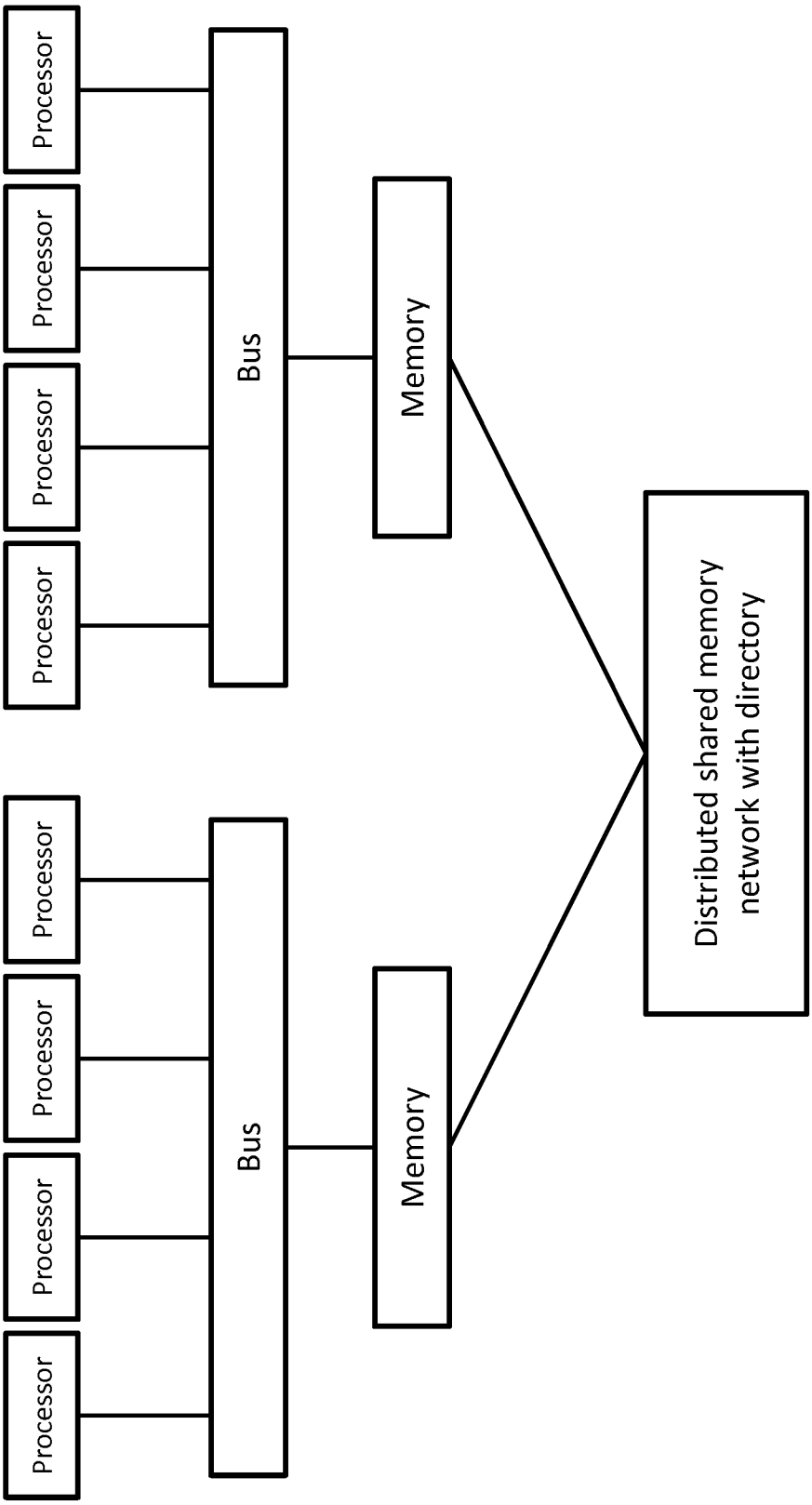

Processor
Processor
Processor
Processor
Bus
Memory
Processor
Processor
Processor
Processor
Bus
Memory
Distributed shared memory network with directory

FIG. 9