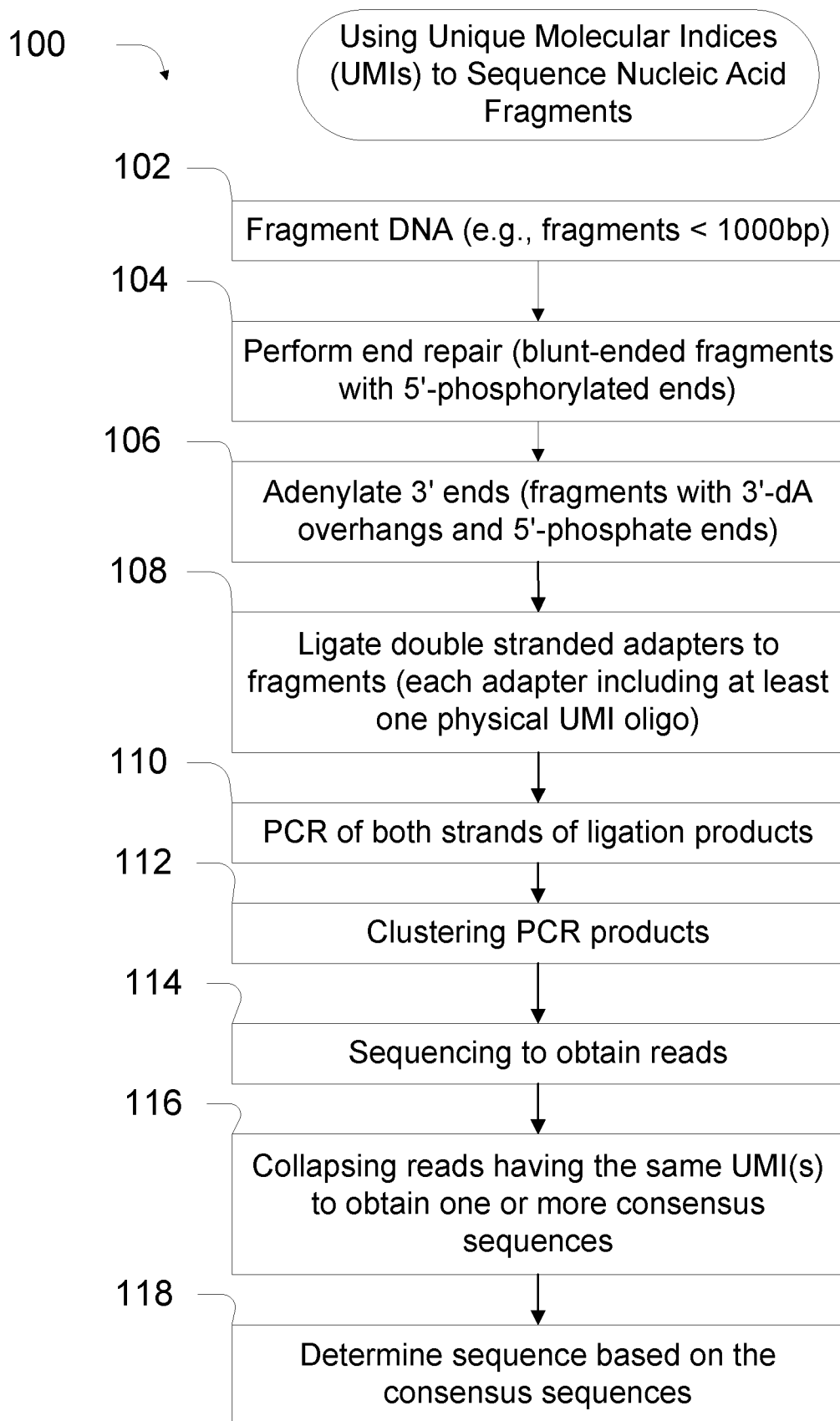


**Figure 1A**

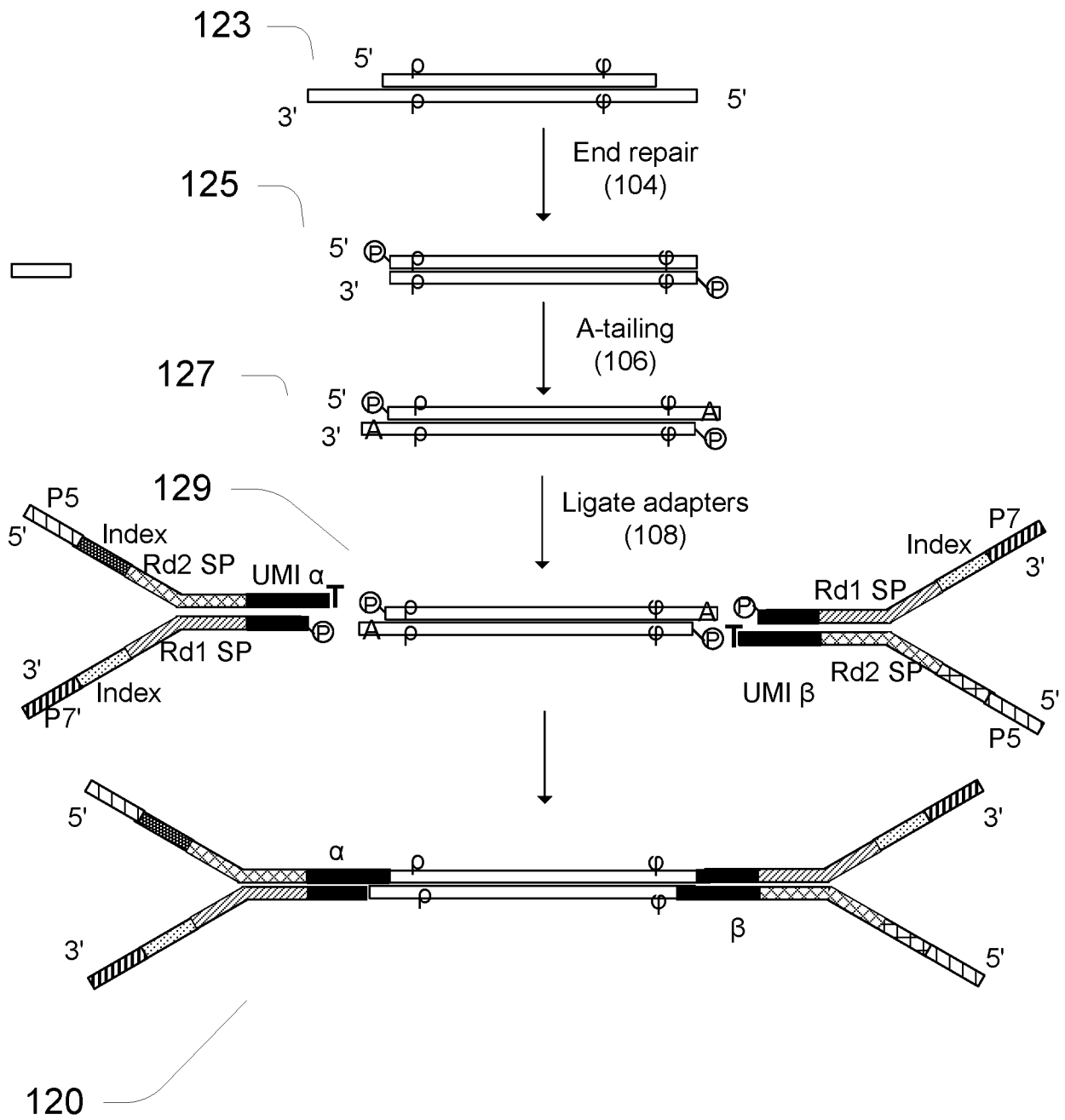
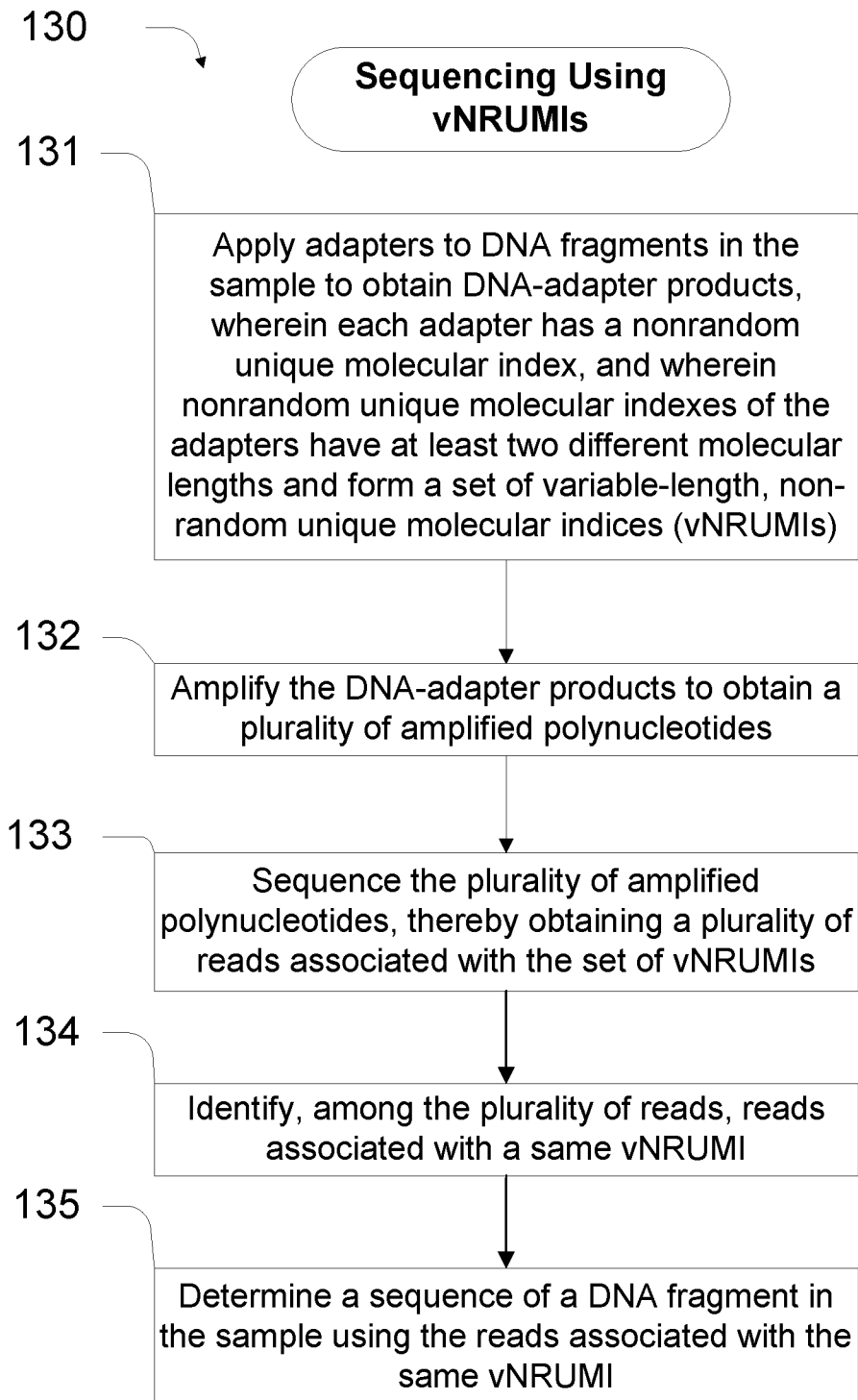
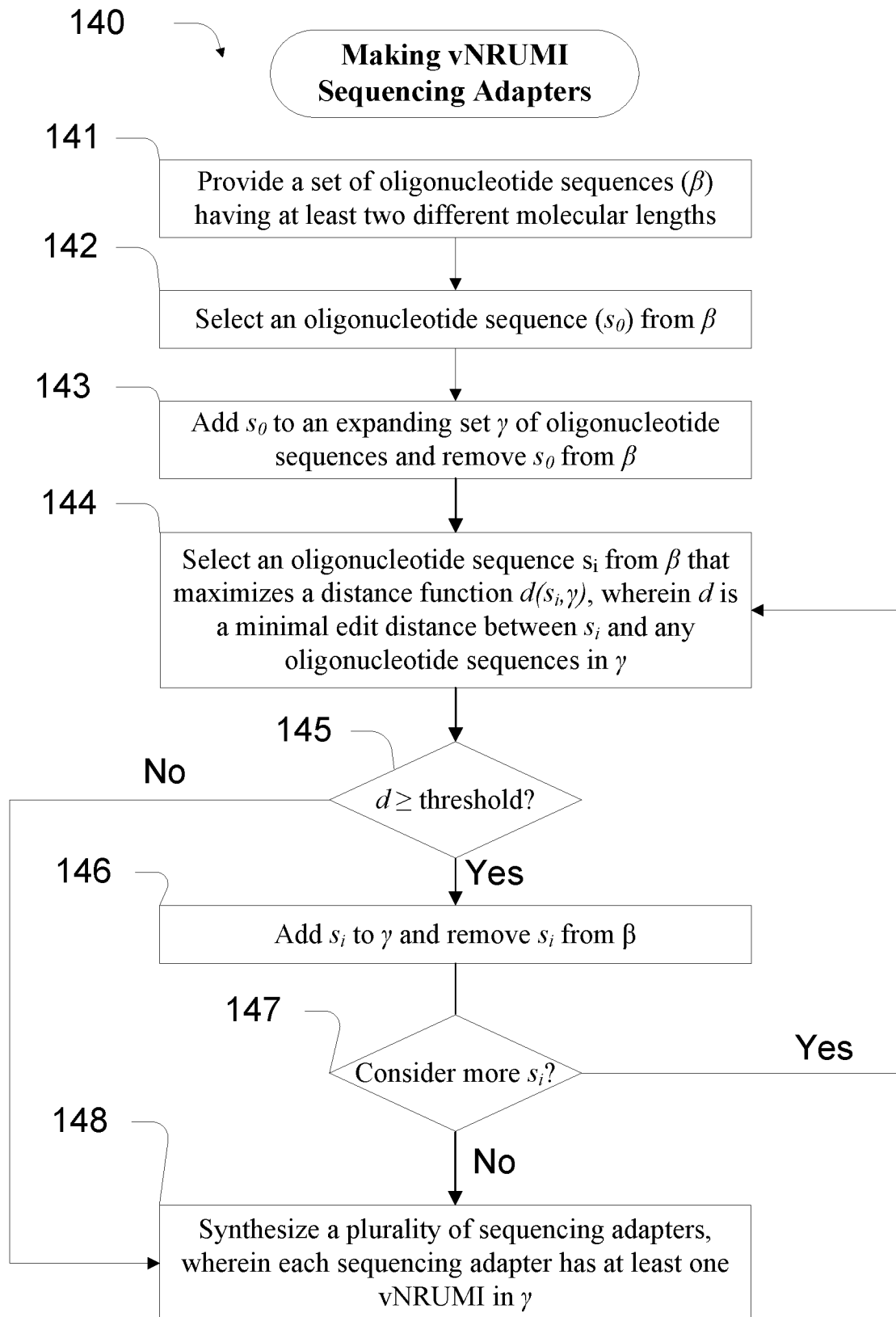


Figure 1B

**Figure 1C**

**Figure 1D**

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150

	<i>Q</i>	G	T	C	T	T	C	G
<i>S1</i>	0	-1	-2	-3	-4	-5	-6	-7
A	-1	-1	-2	-3	-4	-5	-6	-7
A	-2	-2	-2	-3	-4	-5	-6	-7
C	-3	-3	-3	-1	-2	-3	-4	-5
T	-4	-4	-2	-2	0	-1	-2	-3
T	-5	-5	-3	-3	-1	1	0	-1
C	-6	-6	-4	-2	-2	0	2	1

Q: GTCTTC
S1: AACTTC } Levenshtein Distance (# addition + # deletion + # substitution) = 2

Q: GTCTTC
S1: AACTTC } Glocal alignment score (# match – Levenshtein Distance) = 2

Levenshtein Distance = 2

152

	<i>Q</i>	G	T	C	T	T	C	G
<i>S2</i>	0	-1	-2	-3	-4	-5	-6	-7
C	-1	-1	-2	-3	-4	-5	-6	-7
G	-2	0	-1	-2	-2	-3	-4	-3
C	-3	-1	-1	0	-1	-2	-2	-3
T	-4	-2	0	-1	1	0	-1	-2
T	-5	-3	-1	-1	0	2	1	0
C	-6	-4	-2	0	-1	1	3	2
G	-7	-5	-3	-1	-1	0	2	4

Q: GTCTTCG
S2: CGCTTCG } Levenshtein distance = 2

Q: GTCTTCG
S2: CGCTTCG } Glocal alignment score = 4

Figure 1E

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160

	Q	T	T	G	G	C	A	T
S ₁	0	-1	-2	-3	-4	-5	-6	-7
T	-1	1	0	-1	-2	-3	-4	-5
T	-2	0	2	1	0	-1	-2	-3
G	-3	-1	1	3	2	1	0	-1
T	-4	-2	0	2	2	1	0	1
G	-5	-3	-1	1	3	2	1	0
A	-6	-4	-2	0	2	2	3	2
C	-7	-5	-3	-1	1	3	2	2

Q: TTGGCAT
S1: TTGTGAC



Global alignment score = 2
Glocal alignment score = 3

162

161

163

	Q	T	T	G	G	C	A	T
S ₂	0	-1	-2	-3	-4	-5	-6	-7
G	-1	-1	-2	-1	-2	-3	-4	-5
G	-2	-2	-2	-1	0	-1	-2	-3
C	-3	-3	-3	-2	-1	1	0	-1
C	-4	-4	-4	-3	-2	0	0	-1
A	-5	-5	-5	-4	-3	-1	1	0
T	-6	-4	-4	-5	-4	-2	0	2

Q: TTGGCAT
S2: GGCCAT



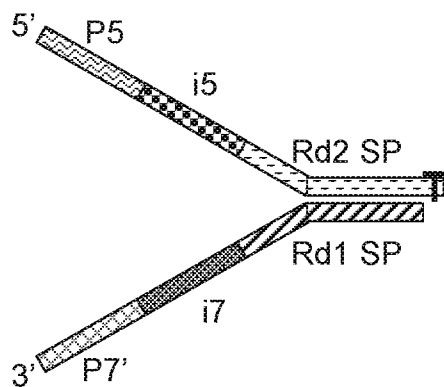
Global alignment score = 2
Glocal alignment score = 2

164

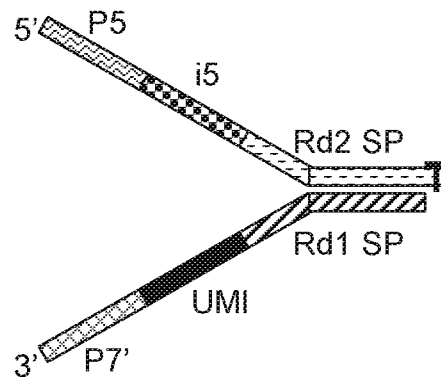
Figure 1F

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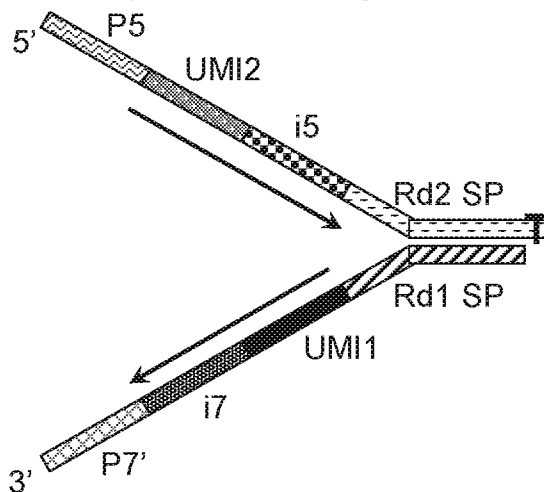
(i) Standard dual index TruSeq adapter



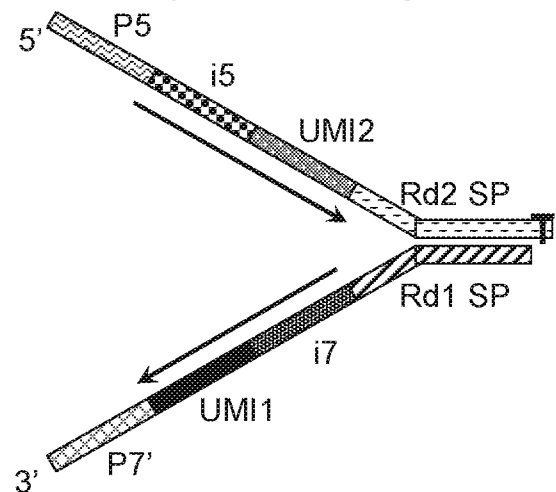
(ii) UMI replacing sample index 1 position



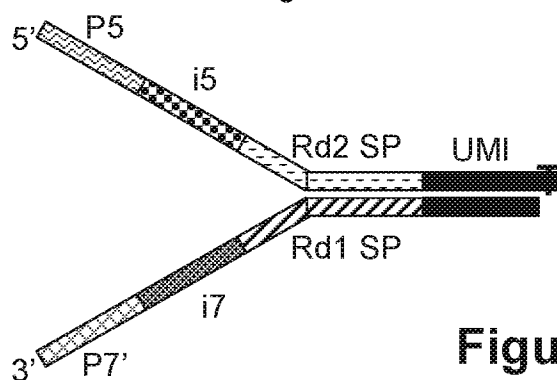
(iii) UMIs in both P5 and P7 arms, prior to sample index reading



(iv) UMIs in both P5 and P7 arms, behind sample index reading



(v) Dual index adapter with a UMI in the double-stranded region



(vi) Short adapter with a UMI in the double-stranded region

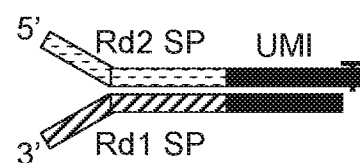
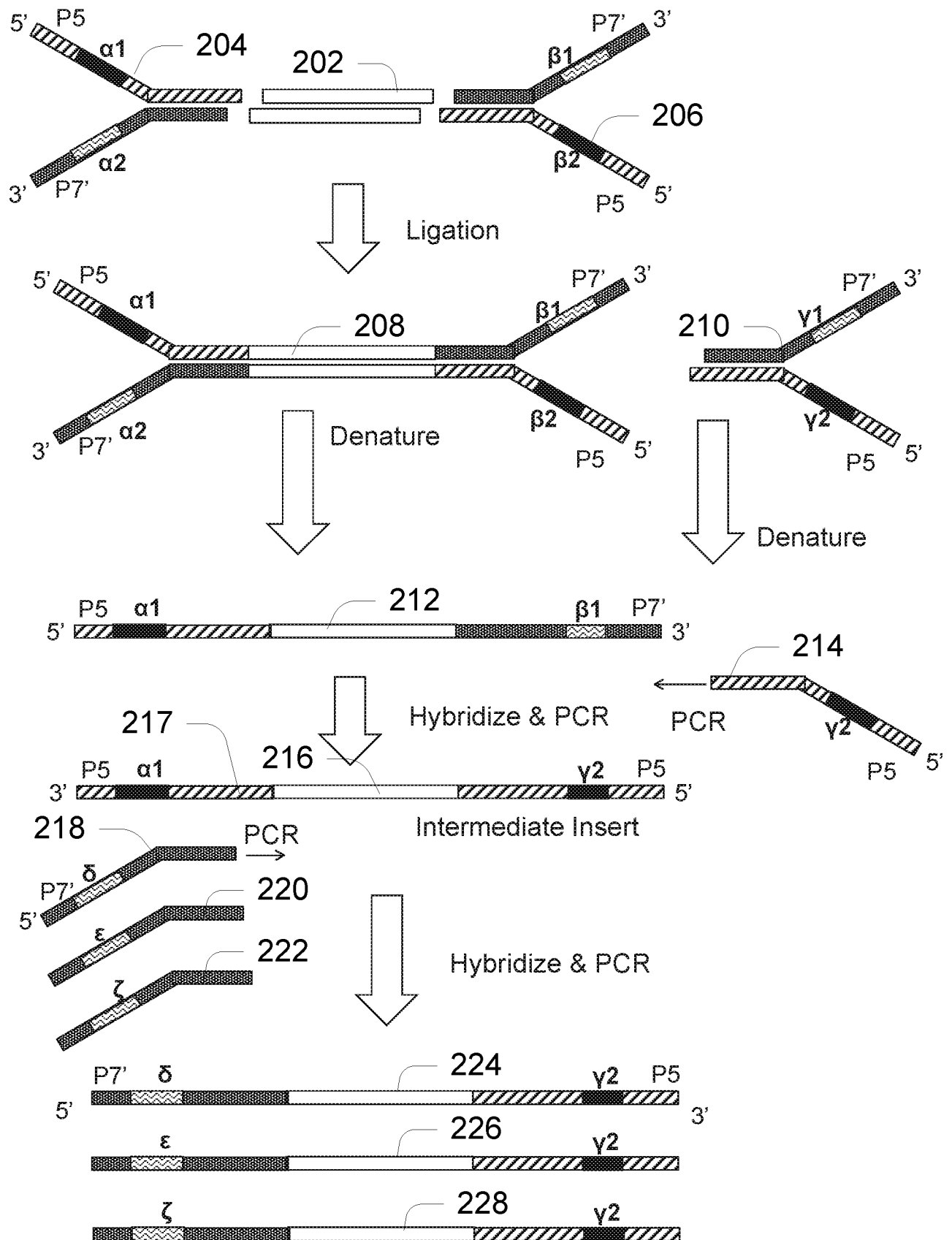


Figure 2A



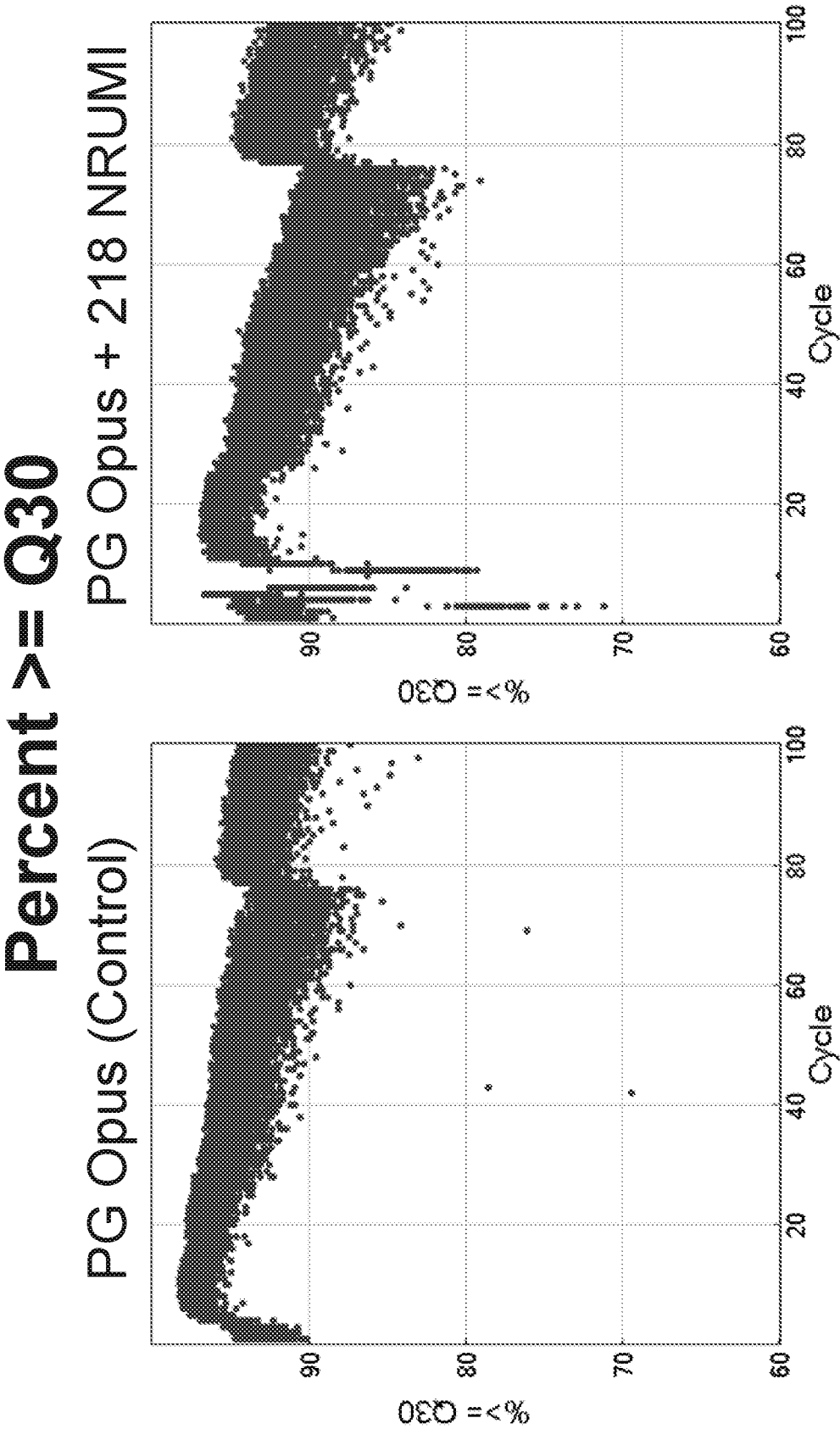


Figure 2C

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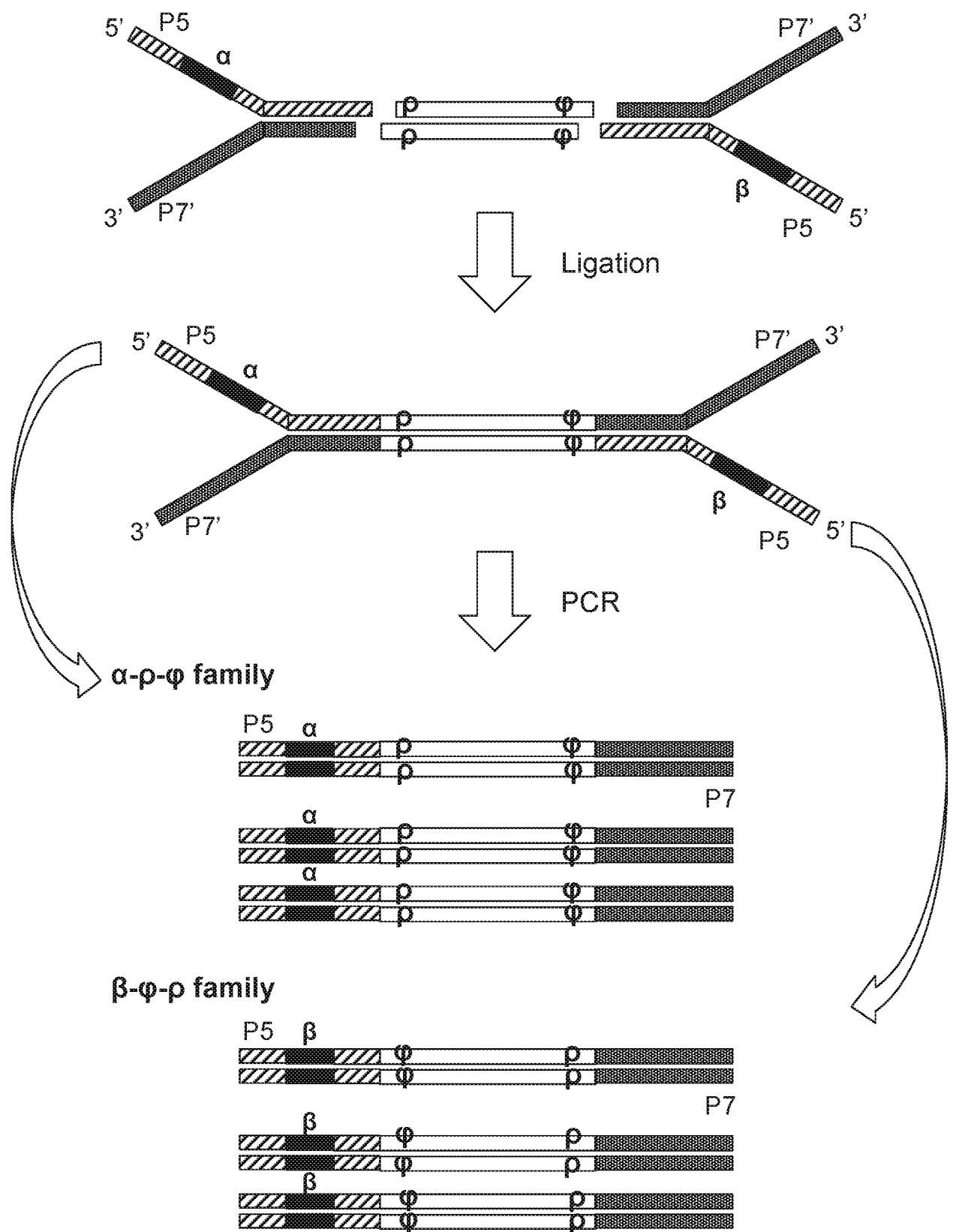
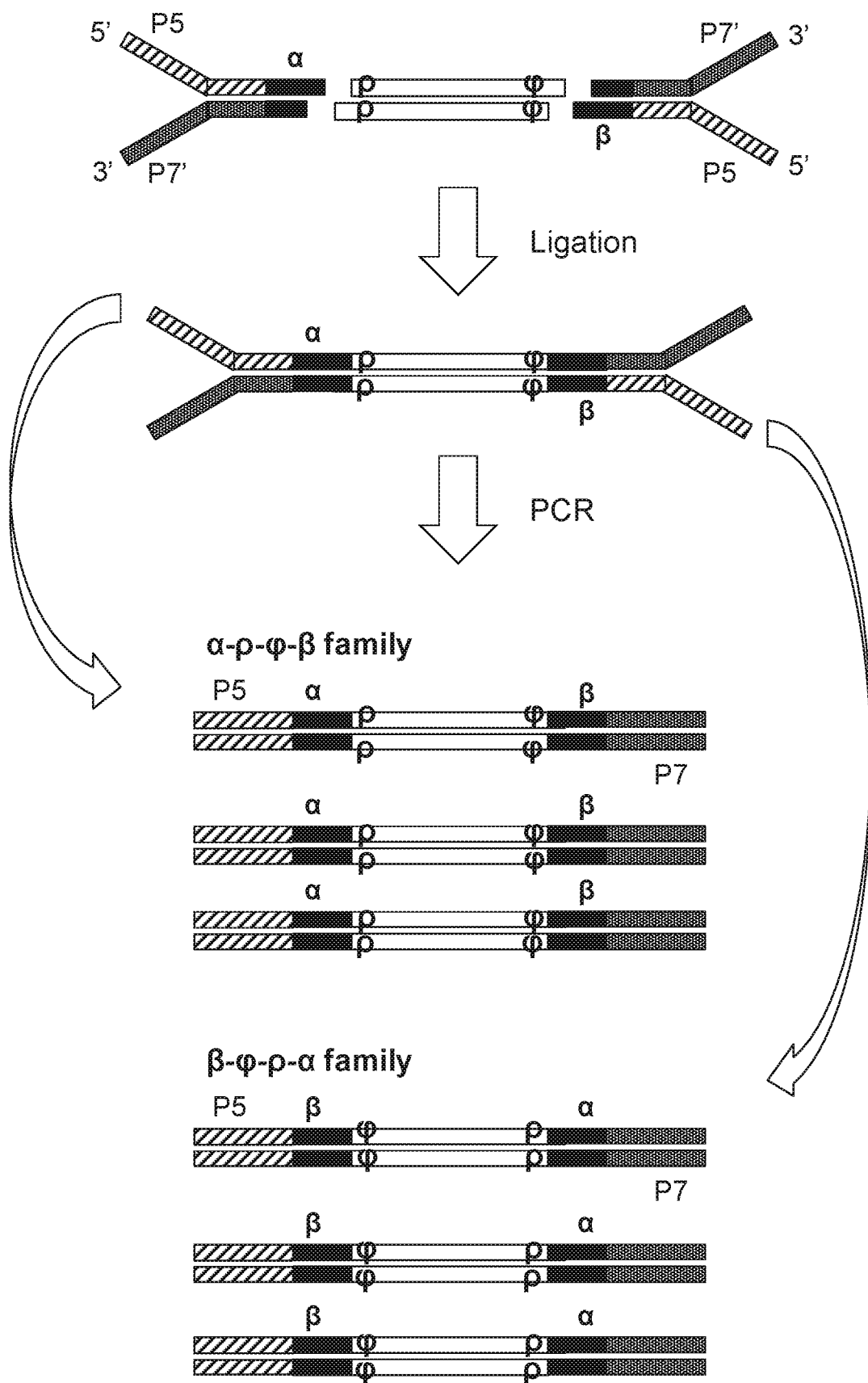


Figure 3A

**Figure 3B**

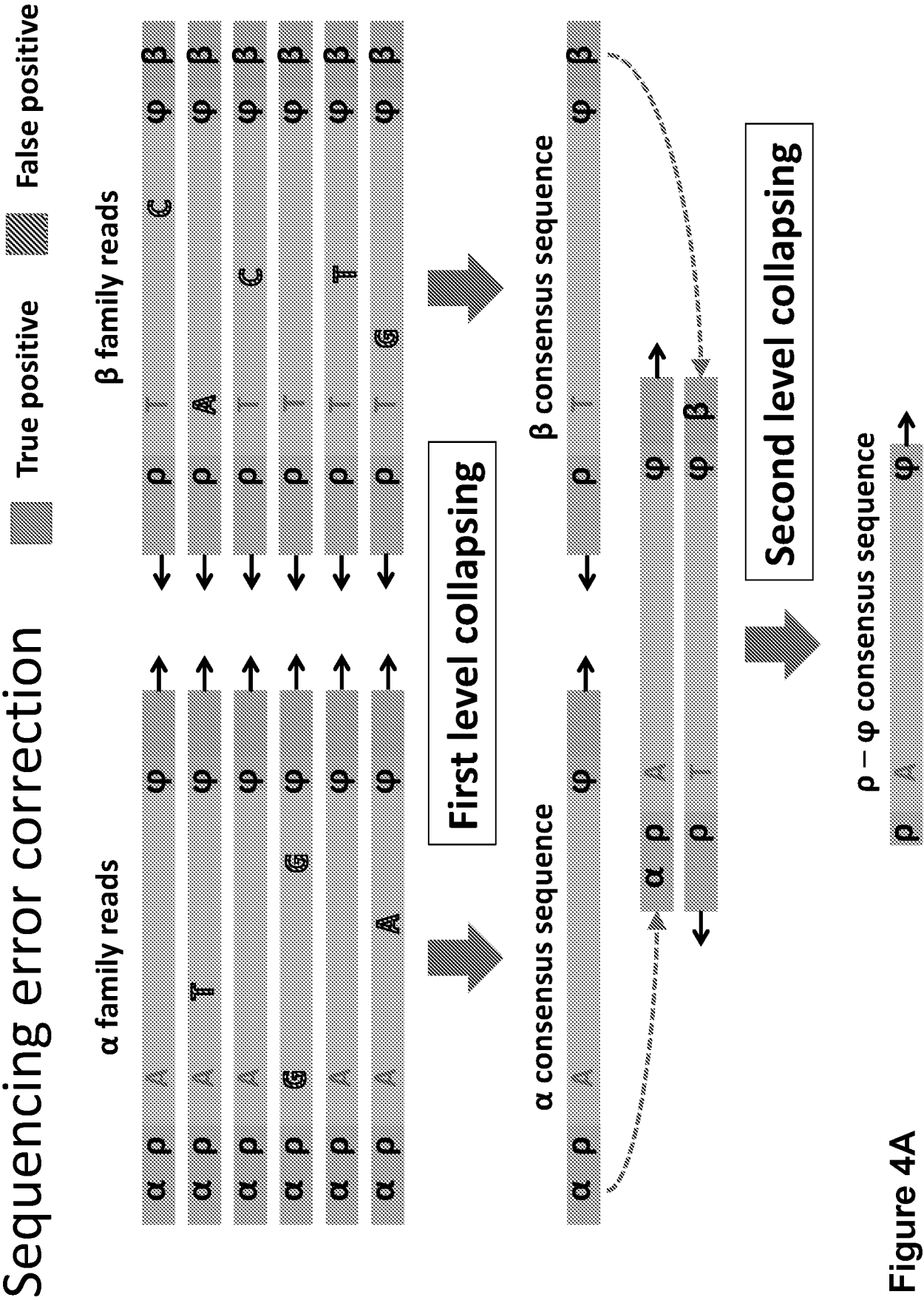


Figure 4A

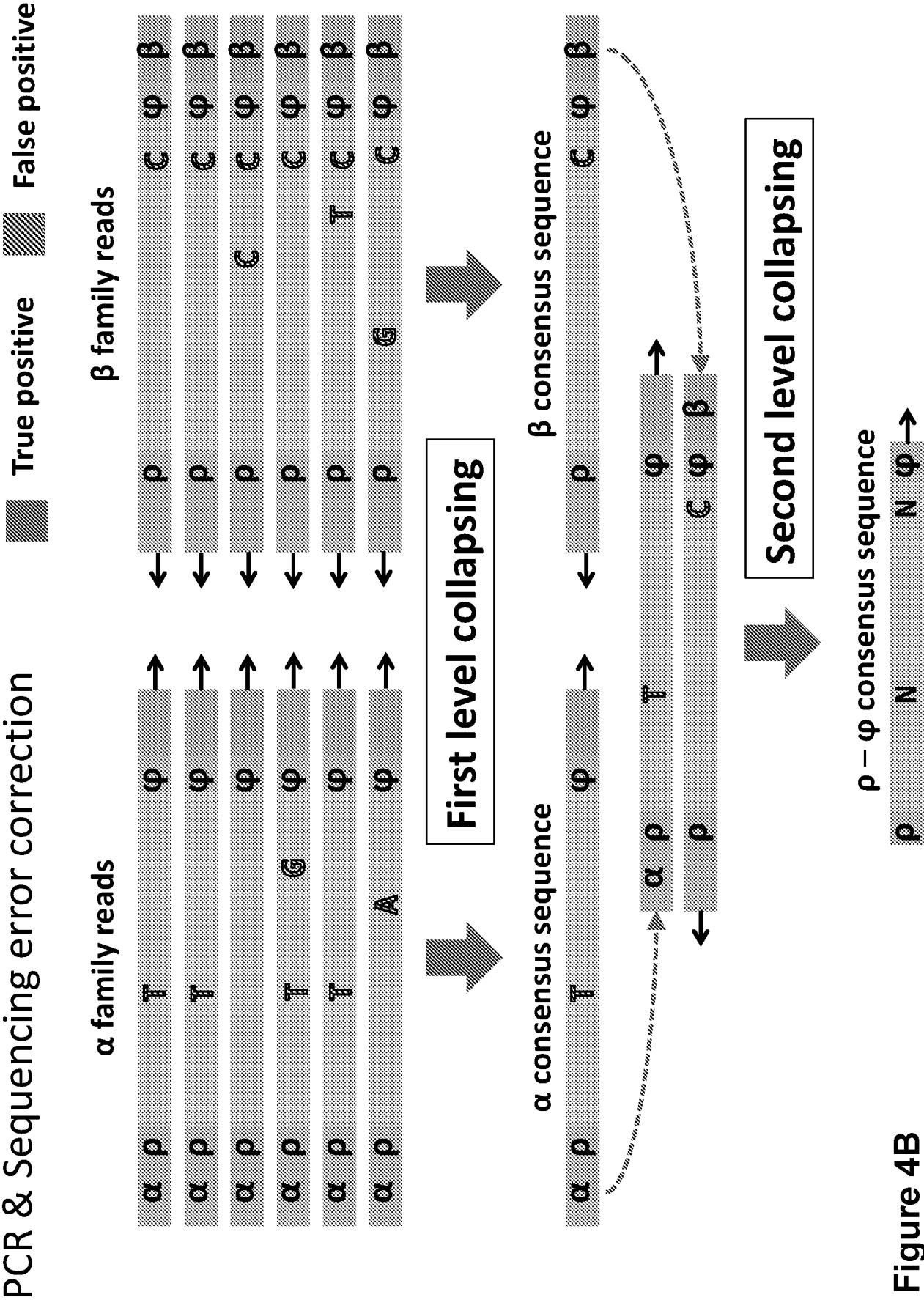


Figure 4B

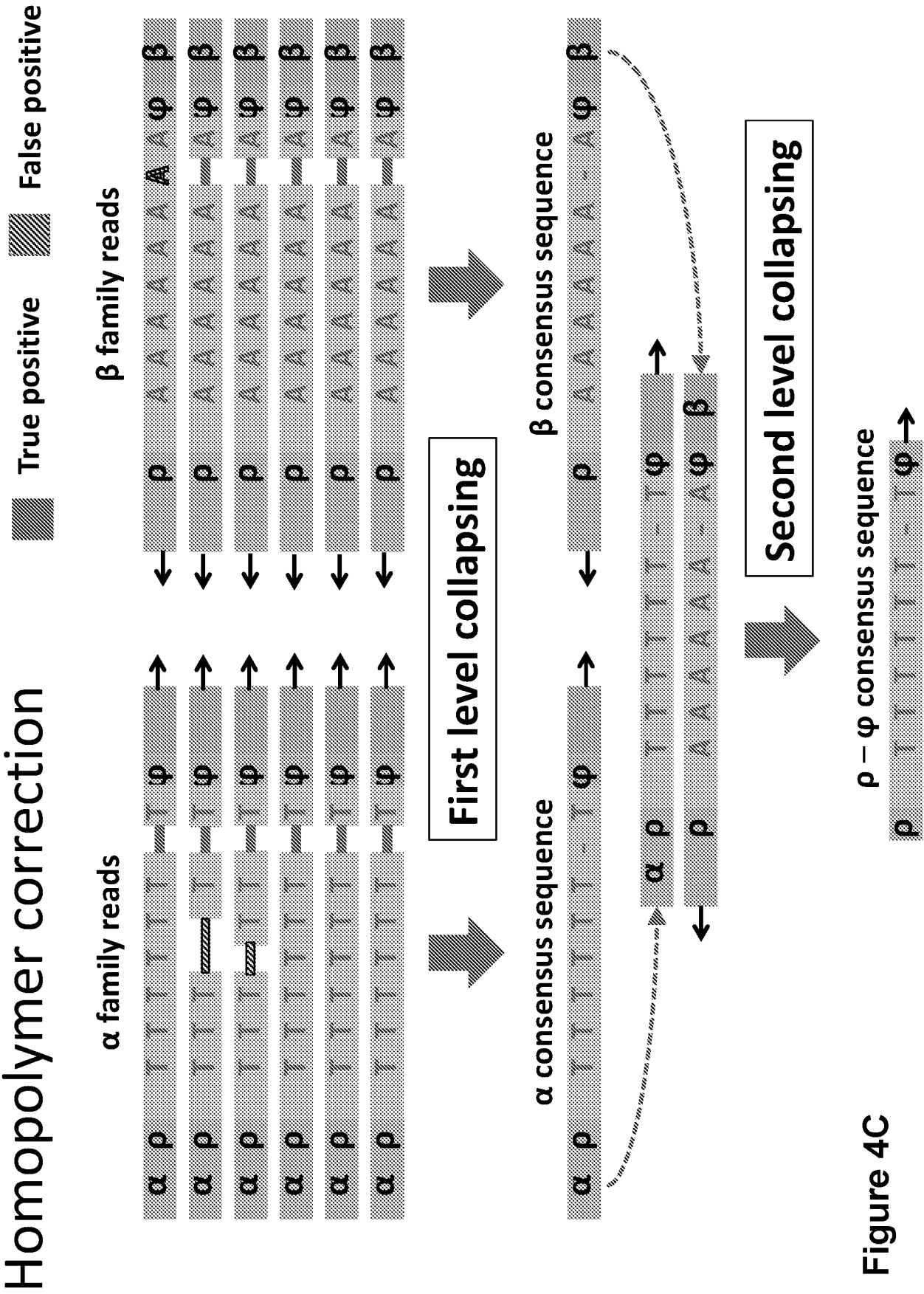


Figure 4C

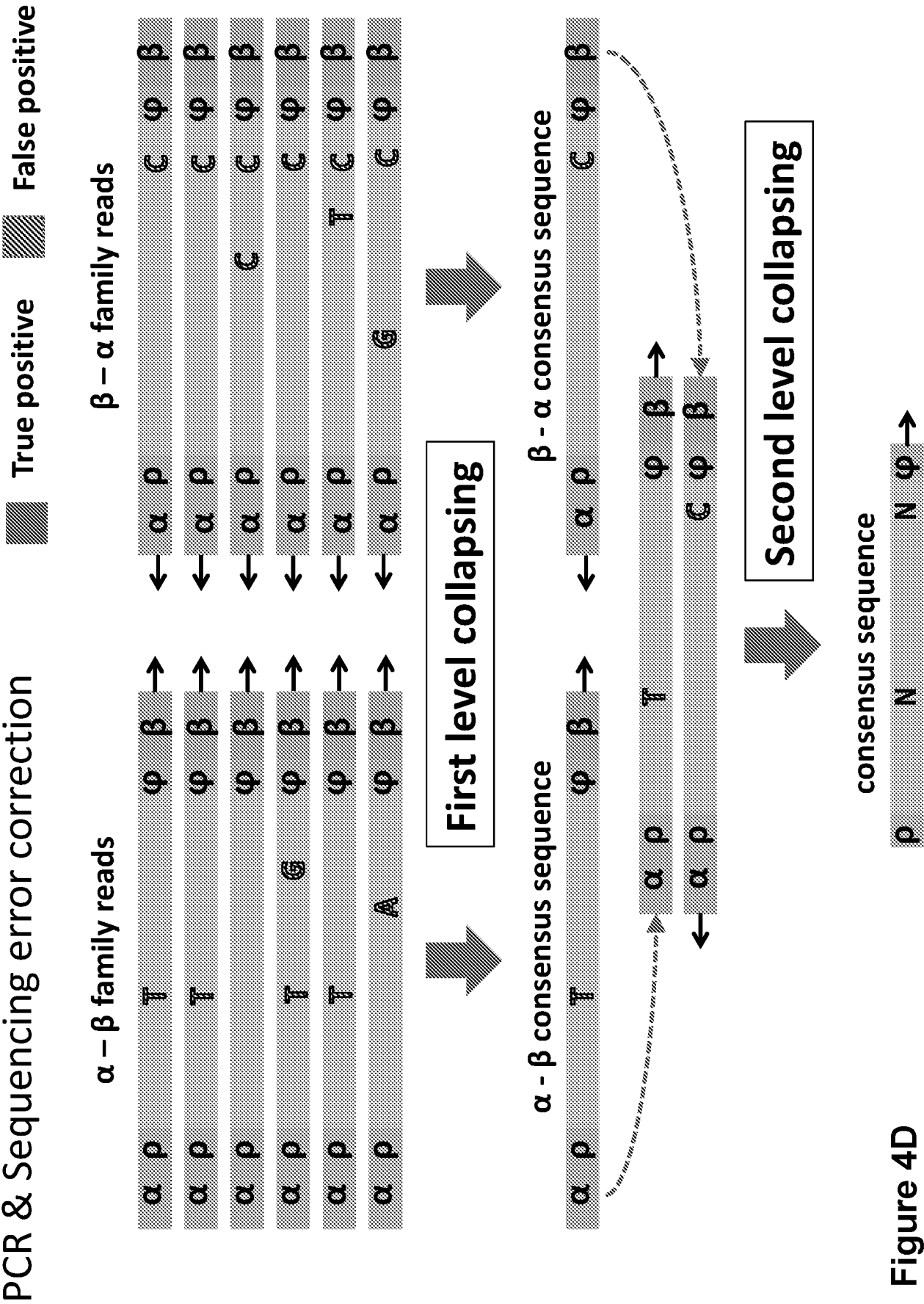


Figure 4D

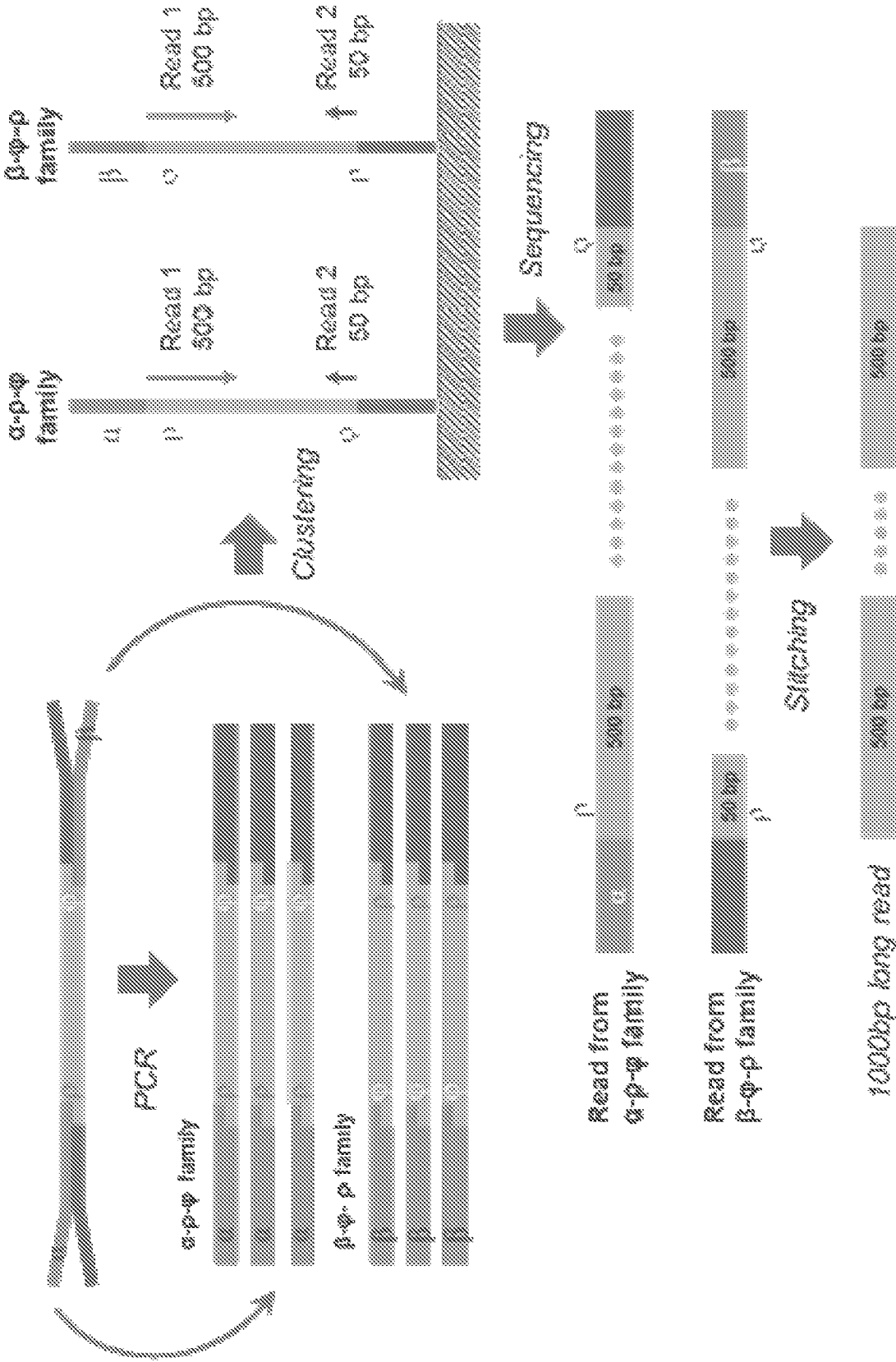


Figure 5

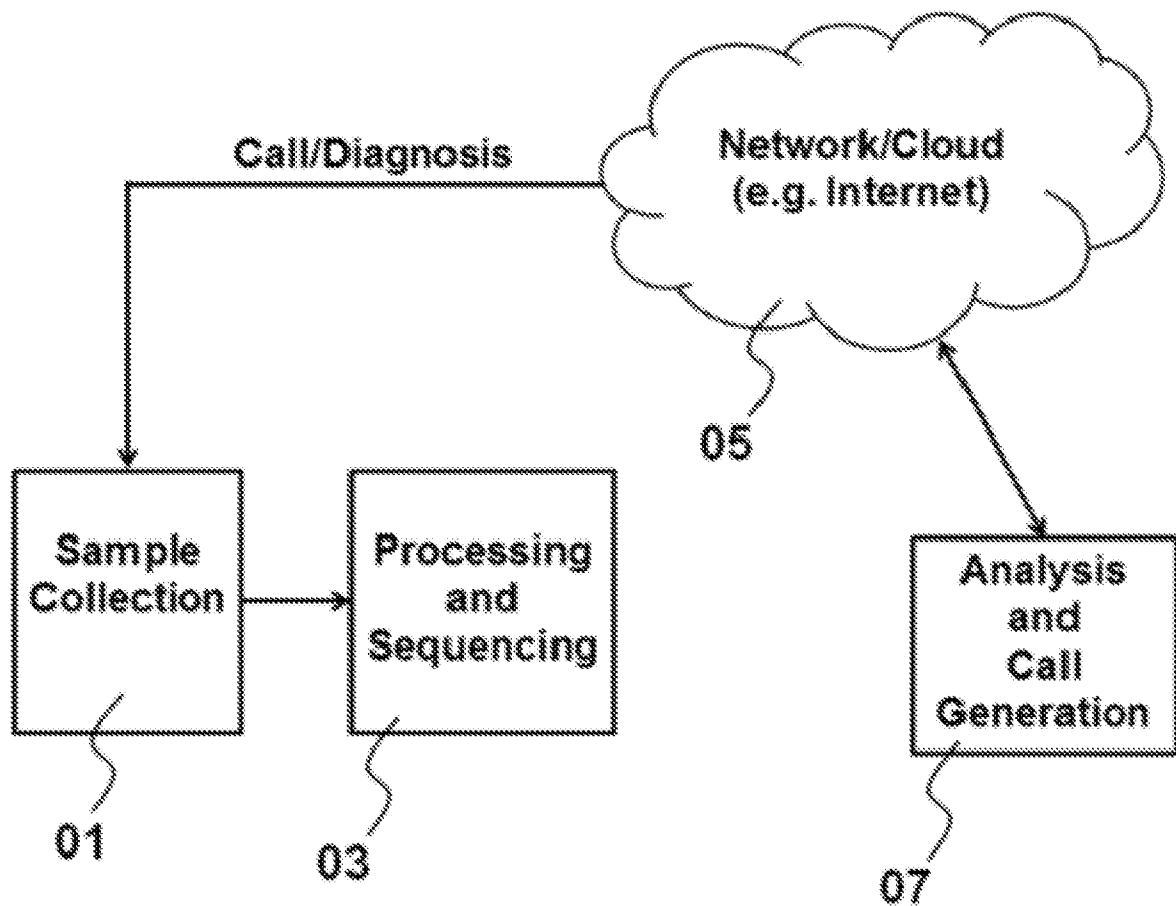
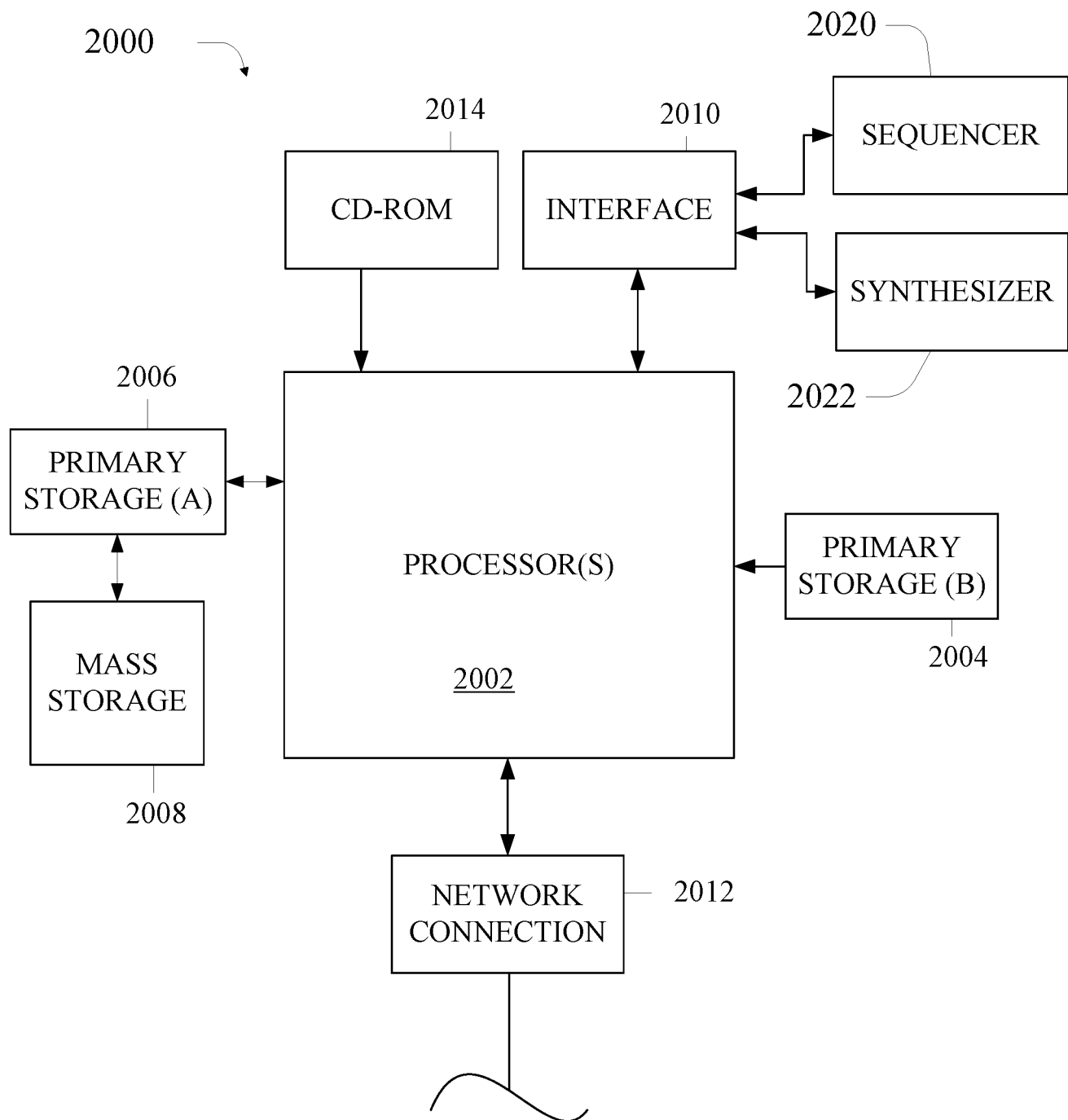


Figure 6

**Figure 7**