

FIG. 1

Simultaneous Sequencing of R1 and R2 Templates			
Array Treatment	R1 Template Response	R2 Template Response	
Deliver R1 primer-block1 and R2 primer	hybridize R1 primer-block1	hybridize R2 primer (no block)	First cycle
Deliver dNTP-block2-label2		incorporate dNTP-block2-label2	
Expose to block1 cleavage	cleave block1		
Deliver dNTP-block1-label1	incorporate dNTP-block1-label1		
First base read R1 and R2	Detect label1 & label2		
Expose to block2 cleavage and label2 cleavage		cleave block2 & label2	Second cycle
Deliver dNTP-block2-label2		incorporate dNTP-block2-label2	
Expose to block1 cleavage and label1 cleavage	cleave block1 & label1		
Deliver dNTP-block1-label1	incorporate dNTP-block1-label1		
Second base read R1 and R2	Detect label1 & label2		
Expose to block2 cleavage and label2 cleavage		cleave block2 & label2	Third Cycle
Deliver dNTP-block2-label2		incorporate dNTP-block2-label2	
Expose to block1 cleavage and label1 cleavage	cleave block1 & label1		
Deliver dNTP-block1-label1	incorporate dNTP-block1-label1		
Third base read R1 and R2	Detect label1 & label2		

FIG. 2

Simultaneous Sequencing of R1 and R2 Templates			
Array Treatment	R1 Template Response	R2 Template Response	
Deliver R1 primer-block1 and R2 primer	hybridize R1 primer-block1	hybridize R2 primer (no block)	First cycle
Deliver dNTP-block2-label2		incorporate dNTP-block2-label2	
Expose to block1 cleavage	cleave block1		
Deliver dNTP-block1-label1	incorporate dNTP-block1-label1		
Expose to block2 cleavage		cleave block2	
First base read R1 and R2	Detect label1 & label2		
Expose to label1 cleavage and label2 cleavage	cleave label1	cleave label2	Second cycle
Deliver dNTP-block2-label2		incorporate dNTP-block2-label2	
Expose to block1 cleavage	cleave block1		
Deliver dNTP-block1-label1	incorporate dNTP-block1-label1		
Expose to block2 cleavage		cleave block2	
Second base read R1 and R2	Detect label1 & label2		
Expose to label1 cleavage and label2 cleavage	cleave label1	cleave label2	Third cycle
Deliver dNTP-block2-label2		incorporate dNTP-block2-label2	
Expose to block1 cleavage	cleave block1		
Deliver dNTP-block1-label1	incorporate dNTP-block1-label1		
Expose to block2 cleavage		cleave block2	
Third base read R1 and R2	Detect label1 & label2		