
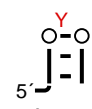
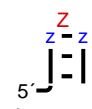
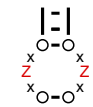
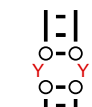
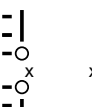
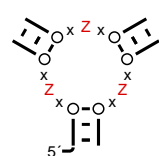
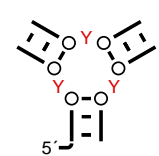
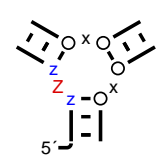
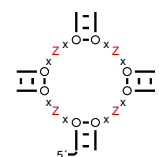
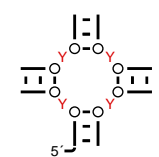
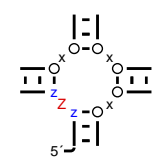
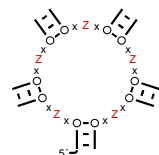
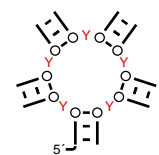
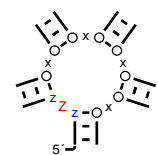


	Strands of exposed nucleotides			Numbers of NCMs
	Sub-strands	Full-strands	Flanked-strands	
Context-free grammar NCM geometry	$Z \rightarrow zZ \mid \varepsilon$ $z \rightarrow A \mid C \mid G \mid U \mid R \mid Y \mid N$ $x \rightarrow Nx \mid \varepsilon$	$Y \rightarrow Z \mid x$		
0-bp (anywhere)	$5' = x Z x$ $ Z \in \{1, \dots, 5\}$ n=19,607			19,607
1-bp NCM (terminal loops)	 $ Z \in \{1, \dots, 5\}$ n=19,607	 $ Z \in \{2, \dots, 5\}$ n=19,600	 $ Z \in \{2, 3\}$ n=19,208	58,415
2-bps NCM (stems)	 $\sum Z \in \{1, \dots, 4\}$ n=13,538	 $\sum Z \in \{1, \dots, 4\}$ n=13,538	 $ Z \in \{1, 2\}$ n=5,488	32,564
3-bps NCM (3-way junctions)	 $\sum Z \in \{1, 2, 3\}$ n=3,745	 $\sum Z \in \{1, 2, 3\}$ n=3,745	 $ Z = 1$ n=1,029	8,519
4-bps NCM (4-way junctions)	 $\sum Z \in \{1, 2, 3\}$ n=7,378	 $\sum Z \in \{1, 2, 3\}$ n=7,378	 $ Z = 1$ n=1,372	16,128
5-bps NCM (5-way junctions)	 $\sum Z \in \{1, 2, 3\}$ n=12,775	 $\sum Z \in \{1, 2, 3\}$ n=12,775	 $ Z = 1$ n=1,715	27,265
grand total number of NCMs:				162,498