Original score is better than the new score (original MFE < new MFE)

Original/New		Parts=1			Parts>1		
		FF	FT	TT & TF	FF	FT	TT & TF
Parts = 1	FF	Original	Original	Original	Original	Original	Original
	FT	**if:** new score ≤ -10.0 and Ncounts > Ocounts $\geq new$ **else:** *Original (BP)*	Original (BP)	Original (BP)	Original (BP)	Original (BP)	Original (BP)
	TF & TT	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both excluded*	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both excluded*	Both Excluded	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both excluded*	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both excluded*	Both Excluded
Parts > 1	FF	**if:** Ncounts > Ocounts $\geq new$ **else:** *Original*	Original	Original	**if:** Ncounts > Ocounts $\geq new$ **else:** *Original*	Original	Original
	FT	**if:** new score ≤ -10.0 and Ncounts > Ocounts $\geq new$ **else:** *Original (BP)*	Original (BP)	Original (BP)	Original (BP)	Original (BP)	Original (BP)
	TF & TT	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both excluded*	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both excluded*	Both Excluded	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both excluded*	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both excluded*	Both Excluded

New score is better than the original score (new MFE< original MFE)

		FF	FT	TT & TF	FF	FT	TT & TF
Parts = 1	FF	New	New	New	New	New	New
	FT	Original	Original (BP)	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both excluded*	Original	Original (BP)	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both excluded*
	TF & TT	Original	Original (BP)	Both Excluded	Original	Original (BP)	Both Excluded
Parts > 1	FF	Original	**if:** new score ≤ -10.0 $\geq new$ **else:** *Original (BP)*	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both Excluded*	**if:** new score ≤ -10.0 and Ncounts > Ocounts $\geq new$ **else:** *Original*	**if:** new score ≤ -10.0 and Ncounts > Ocounts $\geq new$ **else:** *Original (BP)*	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both Excluded*
	FT	Original	Original (BP)	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both Excluded*	Original	Original (BP)	**if:** new score ≤ -10.0 $\geq new$ **else:** *Both Excluded*
	TF & TT	Original	Original (BP)	Both Excluded	Original	Original (BP)	Both Excluded

Suppl. Tab. 1: This table shows the comparisons between the original sequence and the new sequence when the original MFE is better than the new MFE and vice versa. The *F* and *T* alphabets are *False and True. The first character always refers to Broken or not (T or F) and the second refers to In loop or not (T or F). For example: if not broken and In loop then it is FT where the not broken and not in loop is FF. BP is the abbreviation for "Bad Positioned" mature sequence.*