SBS1 **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20% Linucleotide Contexts

SBS2 **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G G G Percentage OF Single Base Substitution 20% Trinucleotide Contexts

SBS3 **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS4 **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS5 **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G G Percentage OF Single Base Substitution 20% Linucleotide Contexts

Lagrangian ATC - AT

SBS7a **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G **G** Percentage OF Single Base Substitution 20%

SBS7b **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G **G** Percentage OF Single Base Substitution 20% **Linucleotide Contexts**

SBS7c **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS7d **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS8 **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS10a **Probability Distribution of Mutation Contexts for Each Substitution Type** T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20% Linucleotide Contexts

SBS10b **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20% Linucleotide Contexts

SBS11 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20% **Linucleotide Contexts**

SBS13 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G **G** Percentage OF Single Base Substitution 20%

SBS15 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G G Percentage OF Single Base Substitution 20% Liuncleotide Coutexts

SBS16 Probability Distribution of Mutation Contexts for Each Substitution Type T>A T>C C>A C>G C>T T>G 20%

Trinucleotide Contexts

SBS17a **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS17b **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

Linucleotide Contexts

SBS19 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS20 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

Trinucleotide Contexts

SBS21 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS22a **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20% Linucleotide Contexts

SBS22b **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS23 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS28 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS29 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G **G** Percentage OF Single Base Substitution 20%

SBS31 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G **G** Percentage OF Single Base Substitution 20%

SBS32 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20% Liuncleotide Contexts

SBS34 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -C>G T>A T>C C>A C>T T>G Percentage OF Single Base Substitution 20% Linucleotide Contexts

SBS37 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS38 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20% Trinucleotide Contexts

SBS39 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20% Linucleotide Contexts

SBS40c **Probability Distribution of Mutation Contexts for Each Substitution Type** 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS43 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS44 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G G Percentage OF Single Base Substitution 20%

SBS46 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G **G** Percentage OF Single Base Substitution 20%

SBS51 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS52 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20% Liurcleotide Contexts

SBS54 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS55 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G G Percentage OF Single Base Substitution 20%

SBS57 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20% Linucleotide Contexts

SBS58 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G G G Percentage OF Single Base Substitution 20%

SBS84 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20% Linucleotide Contexts

SBS86 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G G G Percentage OF Single Base Substitution 20%

SBS87 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS93 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G **G** Percentage OF Single Base Substitution 20%

SBS97 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%

SBS99 Probability Distribution of Mutation Contexts for Each Substitution Type 100% -T>A T>C C>A C>G C>T T>G Percentage OF Single Base Substitution 20%