

Oligo Calc: Oligonucleotide Properties Calculator

Enter Oligonucleotide Sequence Below
OD calculations are for single-stranded DNA or RNA

Nucleotide base codes

TAA CCC CGG TAC CCC AGC TTC TTC TAA TTT GGC AAA GAT CCA AGC GGC GAT CGC CTC ACT
GGT GGG GCT TTC CAA ACC AAG ACT GTC GTT GAG GTA ATA ATG GTC GAG GTG ATT TTT CAC
CAA GGG GTC CAA ATG GGC TTT GAG CAC ACT AAA GTC CAT CAC CAT GCC CGT TTC TGA ACC
AGT GBT TTT CAG GCG ATC GCT GGC CAC GTA AAC CCG GCC CCG AAA ACT ATG GCC ATG TAA
GCG TCG ACA TTT CCC TTC GTG GTG GGG CAA TTG ATG GGC CGC CTC AAA GGA AAA CTC CTT

Reverse Complement Strand(5' to 3') is:

GAC AGT GAT TTG AGA TTT TTA TGT GGA TTA TTT ATA AGG AGT TTT CCT TTG AGG CGG CCC
ATC AAT TGC CCC ACC ACG AAG GGA AAT GTC GAC GCT TAC ATG GCC ATA GTT TTC GGG GCC

5' modification (if any) 3' modification (if any) Select molecule

50 nM Primer Measured Absorbance at 260 nanometers

50 mM Salt (Na⁺)

ssDNA

Calculate Swap Strands BLAST mfold

Physical Constants

Length: 455 Molecular Weight: 140524.1⁴ GC content: 50%

1 ml of a sol'n with an Absorbance of 1 at 260 nm

is 0.203 microMolar³ and contains 28.5 micrograms

Melting Temperature (T_M) Calculations

1 83.8 °C (Basic)

2 97.6 °C (Salt Adjusted)

3 84.28 °C (Nearest Neighbor)

Thermodynamic Constants Conditions: 1 M NaCl at 25°C at pH 7.

RlnK 33.404 cal/(°K*mol) deltaH 3985.7 Kcal/mol

deltaG 730.5 Kcal/mol deltaS 10480.2 cal/(°K*mol)

Deprecated Hairpin/self dimerization calculations

5 (Minimum base pairs required for single primer self-dimerization)

4 (Minimum base pairs required for a hairpin)

Check Self-Complementarity

DNA 길이, single-strand의 분자량, GC %를 보여준다.

흡광도값은 260 nm에서 1의 값을 가지는 DNA 용액 1 ml에 존재하는 DNA의 몰농도와 양을 보여준다.

DNA는 double strand로 존재하므로 실제 실험에 사용하기 위해서는 dsDNA를 선택하여 계산