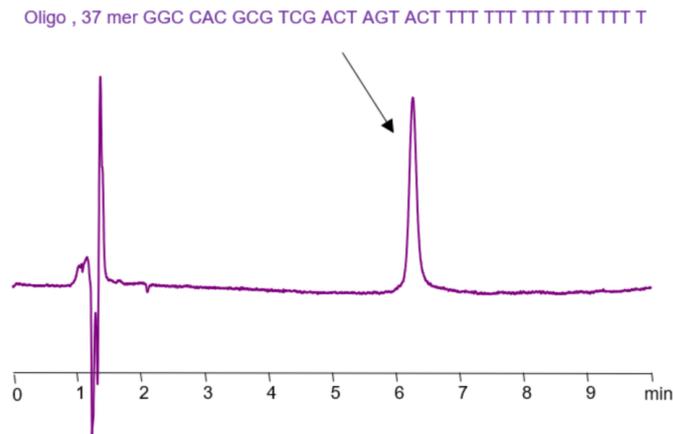


HPLC Method for Analysis of Oligonucleotides 37 mer on BIST A Column



Column:	BIST A
Column size:	4.6 × 100 mm, 5 µm
Column part number:	TA-46.100.0510.C
Mobile phase:	Gradient MeCN - 50-5%, 10 min
Buffer:	Mg acetate - 20 mM pH 4.0
Flow rate:	1.0 mL/min
Detection:	UV 260 nm

Separation type: Bridge Ion Separation Technology, or BIST™ by SIELC Technologies

This is a single-stranded DNA molecule that is 37 nucleotides long, and its sequence is as follows:

GGC CAC GCG TCG ACT AGT ACT TTT TTT TTT TTT TTT TTT T

The sequence contains the nucleotides G, C, A, and T, which represent the four different bases in DNA. The sequence also contains a stretch of thymine (T) nucleotides at the end, which serves as a poly-T tail. This tail is often added to oligonucleotides used in PCR and other molecular biology techniques to increase their binding affinity to the target DNA sequence.

The sequence also contains a specific sequence that can be used for hybridization or amplification purposes. The sequence GGC CAC GCG TCG ACT AGT ACT is known as the “primer” sequence, and it can be used to specifically bind to a complementary DNA sequence in PCR or other molecular biology techniques.

Overall, the sequence shown is an example of a synthetic oligonucleotide that can be used in various molecular biology applications.

Using SIELC’s newly introduced BIST™ method, this oligonucleotide can be retained on a negatively-charged, cation-exchange BIST™ A column. There are two keys to this retention method: 1) a multi-charged, positive buffer, such as TMEDA formate, which acts as a bridge, linking the negatively charged dye to the negatively-charged column surface and 2) a mobile phase consisting mostly of organic solvent (such as MeCN) to minimize the formation of a solvation layer around the charged analytes. Using this new and unique analysis method, oligonucleotide can be separated, retained, and detected at 260 nm.

Please read more on oligonucleotides analysis by HPLC in our April's 2023 newsletter .

Method Parameters

Column	BIST A, 4.6 x 100 mm, 5 µm, 100 Å, surface coated
Mobile Phase	Gradient MeCN – 50-5%, 10 min
Buffer	Mg acetate pH 4.0 – 20 mM
Flow Rate	1.0 mL/min
Detection	UV 260 nm

Quelle: <https://sielc.com/hplc-method-for-analysis-of-37oligo>