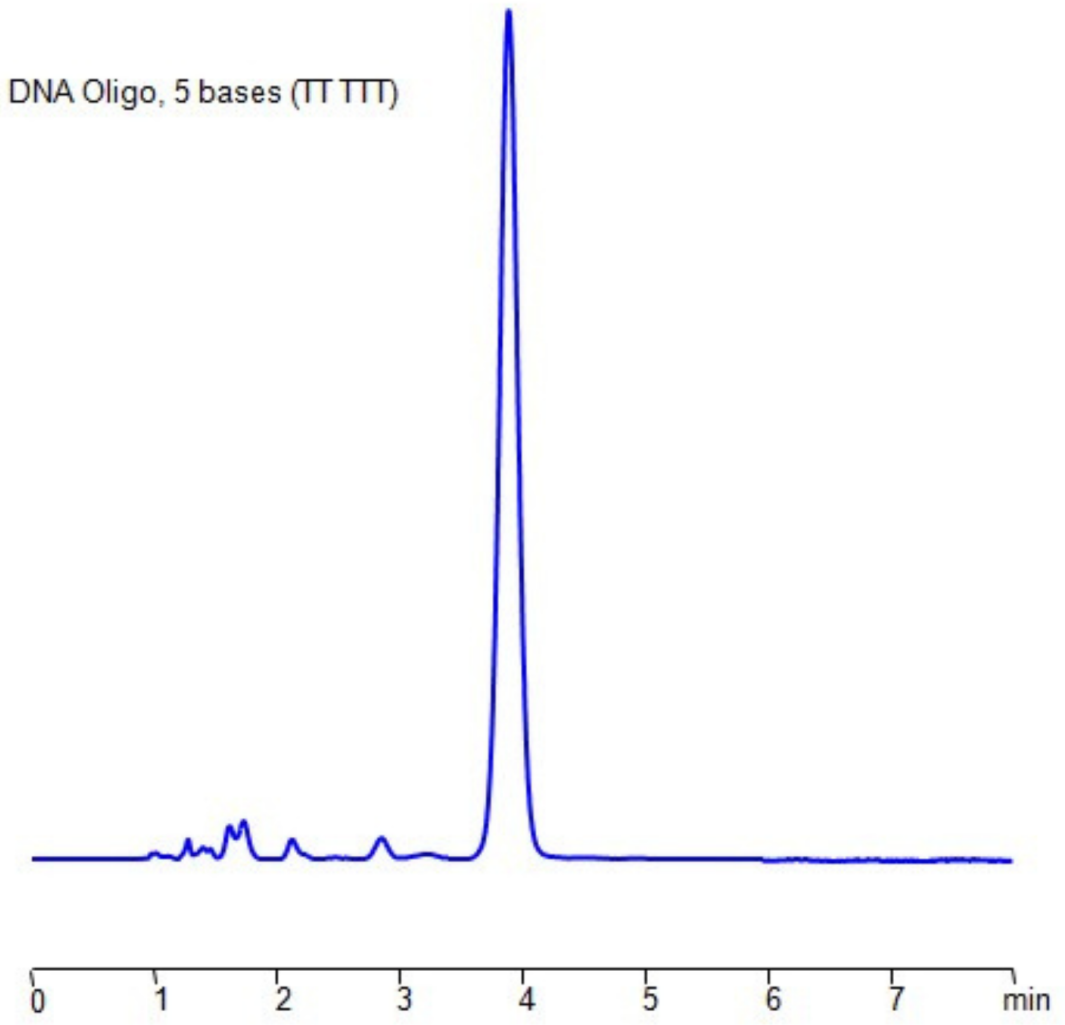
HPLC Method for Analysis of Oligonucleotides dt 5 mer on BIST A Column

https://sielc.com/hplc-method-for-analysis-of-oligo5t

Chromatogram



Column:	BIST A
Column size:	4.6 × 100 mm, 5 µm
Column part number:	TA-46.100.0510.C
Mobile phase:	MeCN/H2O - 60/40%
Buffer:	TMEDA Formate pH 4.0 - 20 mM
Flow rate:	1.0 mL /min
Detection:	UV 260 nm
Sample:	0.024 mg/ml in EtOH/H2O – 50/50%
Injection volume:	1 µl
LOD	10 ppb

Description

· Separation type: Bridge Ion Separation Technology, or BIST™ by SIELC Technologies · HPLC Method for Analysis of DNA Oligo, 5 bases (TT TTT) on BIST A Column by SIELC Technologies

DNA oligos, short for oligonucleotides, are small fragments of DNA that are often synthesized for various scientific and medical applications. A DNA oligo with a sequence of 5 thymine bases, denoted as “TTTTT,” has some specific properties and uses:

Composition : This oligo is composed of five thymine (T) nucleotides, which are pyrimidine bases.

Stability : Thymine-rich oligos can have different stability characteristics compared to those rich in other nucleotides. The stability of DNA strands is influenced by base stacking interactions and hydrogen bonding.

Hybridization Potential : The ability of this oligo to hybridize (bind) with other DNA or RNA sequences is limited due to its homopolymer nature. It would preferentially bind to sequences rich in adenine (A).

DNA oligo with the sequence “TTTTT” has unique properties related to its homopolymer nature and finds specific uses in molecular biology, although it also has some limitations due to its repetitive sequence.

Method Parameters

Mobile Phase	MeCN – 60%
Buffer	TMEDA Formate pH 4.0 – 20 mM
Flow Rate	1.0 ml/min
Detection	UV 260 nm
Sample	0.024 mg/ml in EtOH/H2O – 50/50%
Injection volume	1 µl
LOD*	10 ppb
Class of Compounds	Oligonucleotides
Analyzing Compounds	Oligonucleotides

HPLC Column Used

BIST A, 4.6 x 100 mm, 5 µm, 100 A, surface coated

Order this column at hplc-shop.de →