APPLICATION NOTE

Speed up your oligonucleotide analysis – in under 2 Minutes!

Precise and rapid oligonucleotide analysis supports efficient production and consistent quality. This Application Note demonstrates how a six-oligonucleotide mix (12–33mer, Supelco) is efficiently resolved using a 30 mm long YMC Accura BioPro IEX QF column at 70 °C – delivering high-resolution results in less than two minutes. Thanks to its compact format and excellent thermal stability, this column is ideal for high-throughput bioanalysis and demanding quality control in oligonucleotide production.

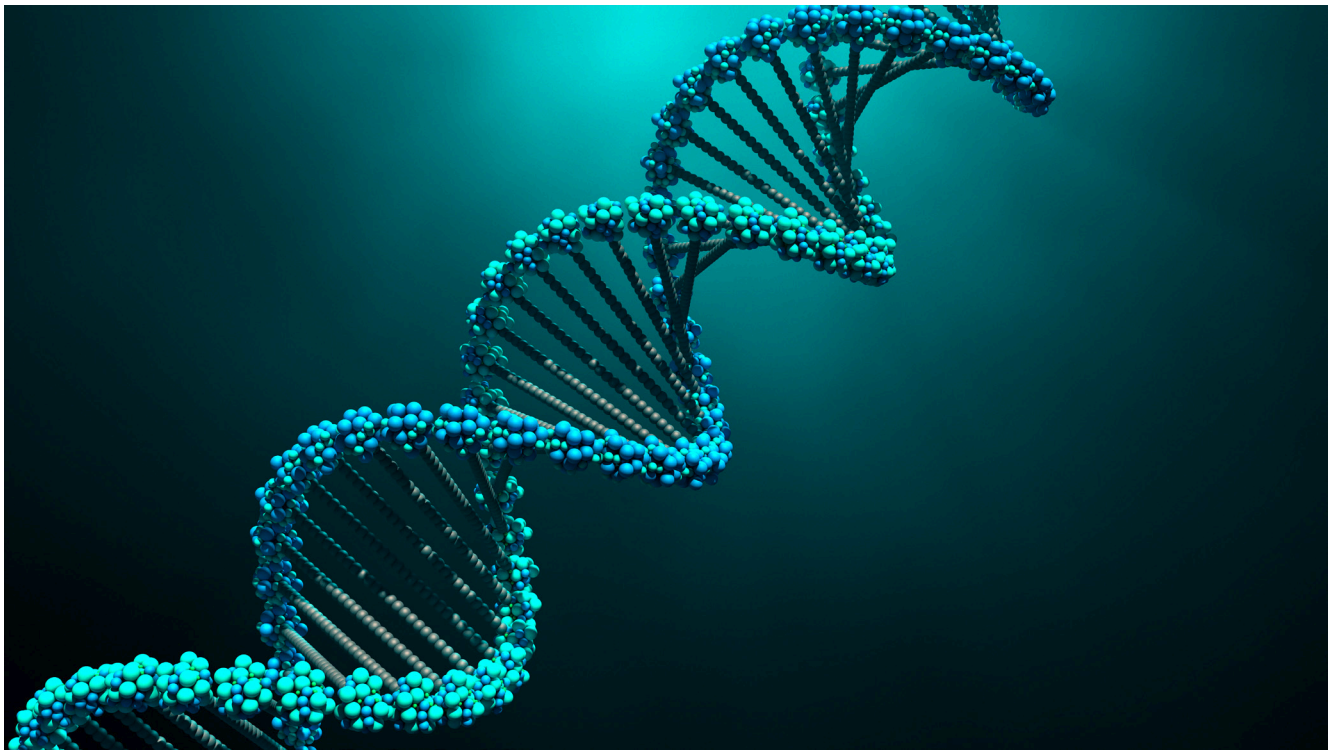

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Table 1: Chromatographic conditions.

Column:	YMC Accura BioPro IEX QF (3 µm) 30 x 2.1 mm ID
Part No.:	QF00S03-03Q1PTC
Eluent:	A: 10 mM HEPES, pH 8
	B: 10 mM HEPES, pH 8 + 1 M $NaClO_4$
Gradient:	20–100%B (0–2.5 min), 100%B (2.51–3.5 min)
Flow rate:	0.5 mL/min
Temperature:	70°C
Injection:	1 µL
Detection:	UV at 254 nm
Sample:	Oligonucleotide HPLC Performance Standard Mix 12-33 NT (Supelco, PN PHR8667)

Table 2: Sequences of the oligonucleotides included in the Oligonucleotide HPLC Performance Standard Mix 12-33 NT.

Abbreviation	Sequence
Oligo-1	TTT TTT TTT TTT
Oligo-2	TTT TTT TTT TTT 3'mod {BtnTg}
Oligo-3	AGC TGT ACT TTT TTT TTT TTT TTT T
Oligo-4	AGC TGT ACT TTT TTT TTT TTT TTT TTT TTT TTT
Oligo-5	TGT GAC CAC GTA GAC TGA CT
Oligo-6	TCT CTC TCT CTC TCT

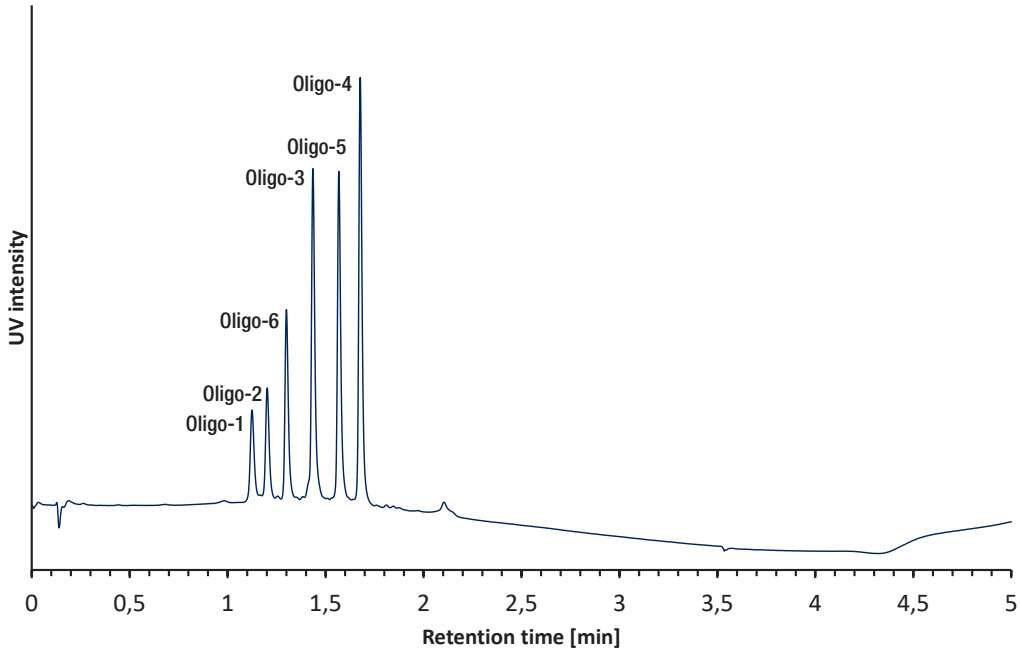

Figure 1: Ultra-fast separation of six oligonucleotides using a YMC Accura BioPro IEX QF column.

The bioinert YMC Accura column, packed with robust BioPro IEX QF resin, ensures precise separation of all six oligonucleotides with exceptional resolution. Operating at 70 °C sharpens peak shapes and boosts efficiency. Together, these optimised conditions enable ultra-fast analysis and support dependable, time-saving routines in your daily lab work.