

## HPLC Analysis of Oligonucleotides Using YMC's Non-porous AEX Columns

Oligonucleotides are important in genetic testing, research and forensics. For quite some time now, oligonucleotide-based approaches have been developed for different pharmaceutical applications.

Therefore, corresponding analytical methods have to be available. In addition to RP based methods, IEX methods can provide an alternative approach. The strong anion exchanger YMC-BioPro QA-F has a

quaternary amine residue as the functional group. The non-porous YMC-BioPro QA-F offers high efficiency, exceptionally high resolution at low operating pressures.

**A method for the determination of oligonucleotides using YMC-BioPro QA-F has been developed by YMC. 3 application examples are presented here.**

Table 1: Chromatographic conditions

|              |                                                   |              |
|--------------|---------------------------------------------------|--------------|
| Column:      | YMC-BioPro QA-F (5 µm) 100 x 4.6 mm ID            |              |
| Part No.:    | QF00S05-1046WP                                    |              |
| Eluent:      | A) 10 mM NaOH                                     |              |
|              | B) 10 mM NaOH containing 1.0 M NaClO <sub>4</sub> |              |
| Gradient:    | Time [min]                                        | Eluent B [%] |
|              | 0                                                 | 25           |
|              | 15                                                | 55           |
|              | 20                                                | 100          |
| Flow rate:   | 1.0 mL/min                                        |              |
| Temperature: | 25 °C                                             |              |
| Detection:   | UV at 260 nm                                      |              |
| Injection:   | 4 µL (5 nmol/mL)                                  |              |

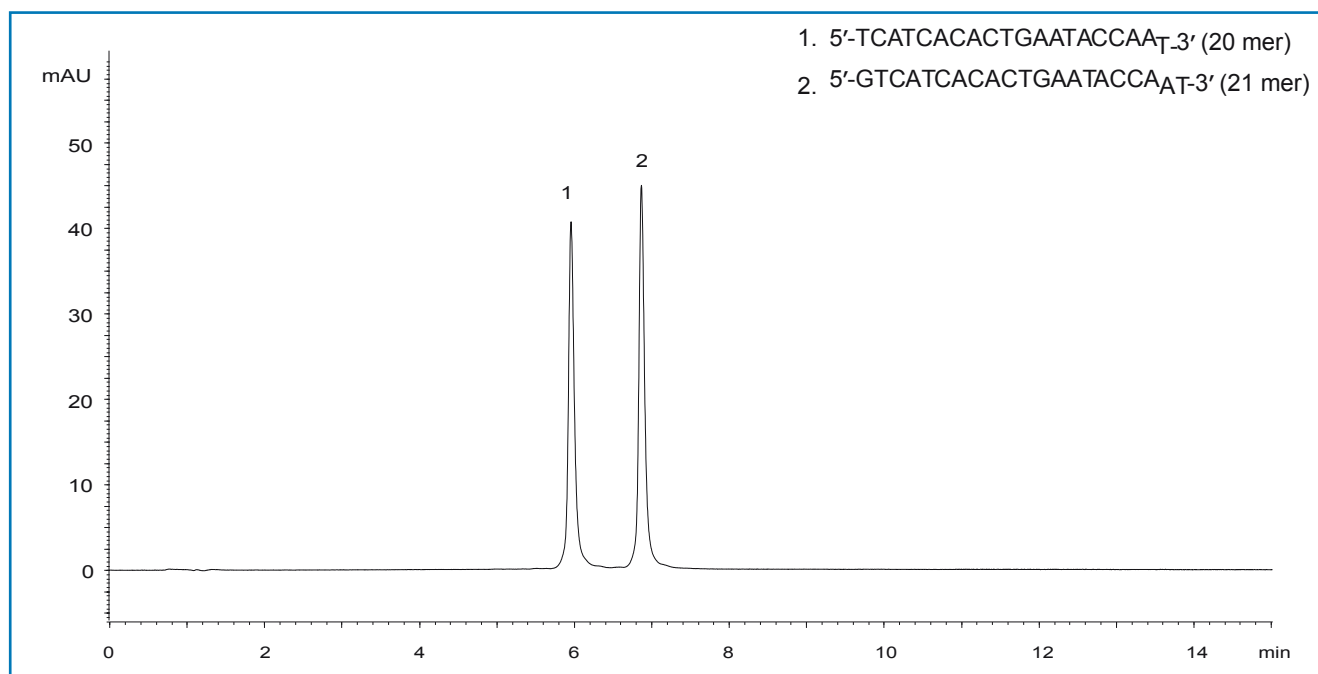


Figure 1: Separation of synthetic oligonucleotides (Single-strand DNA)

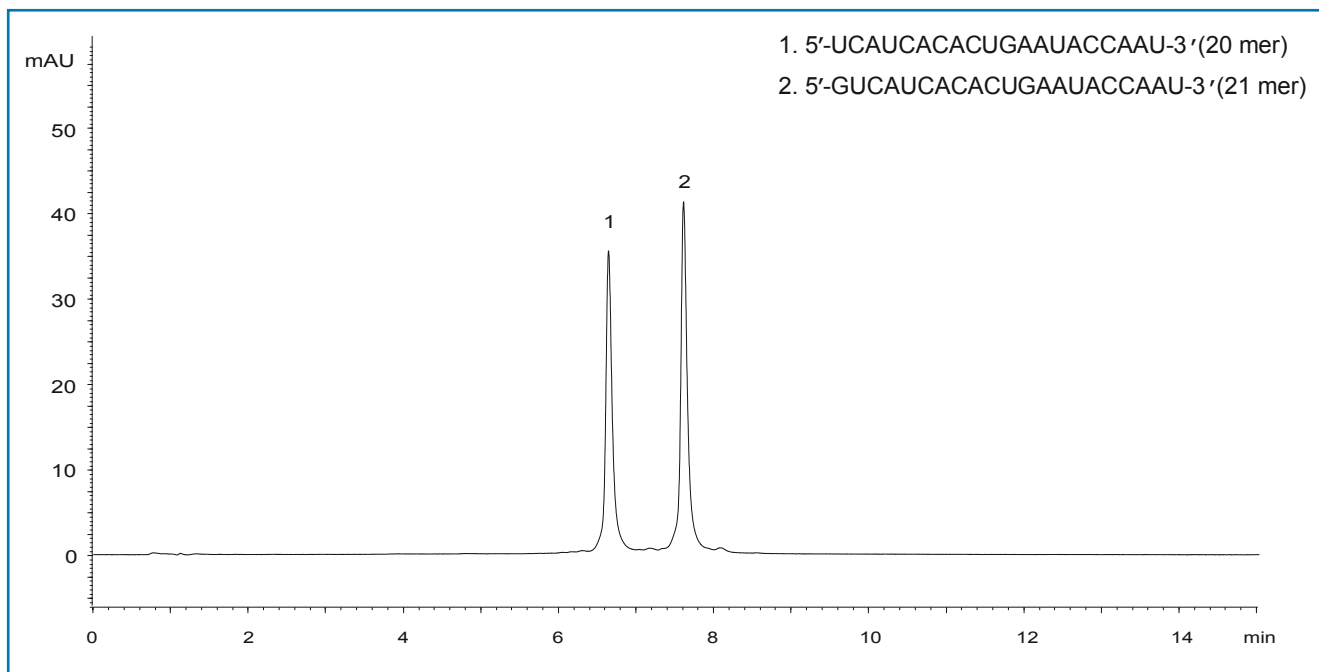
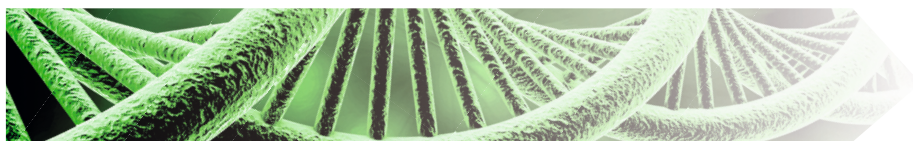


Figure 2: Separation of synthetic oligonucleotides (Single-strand RNA)

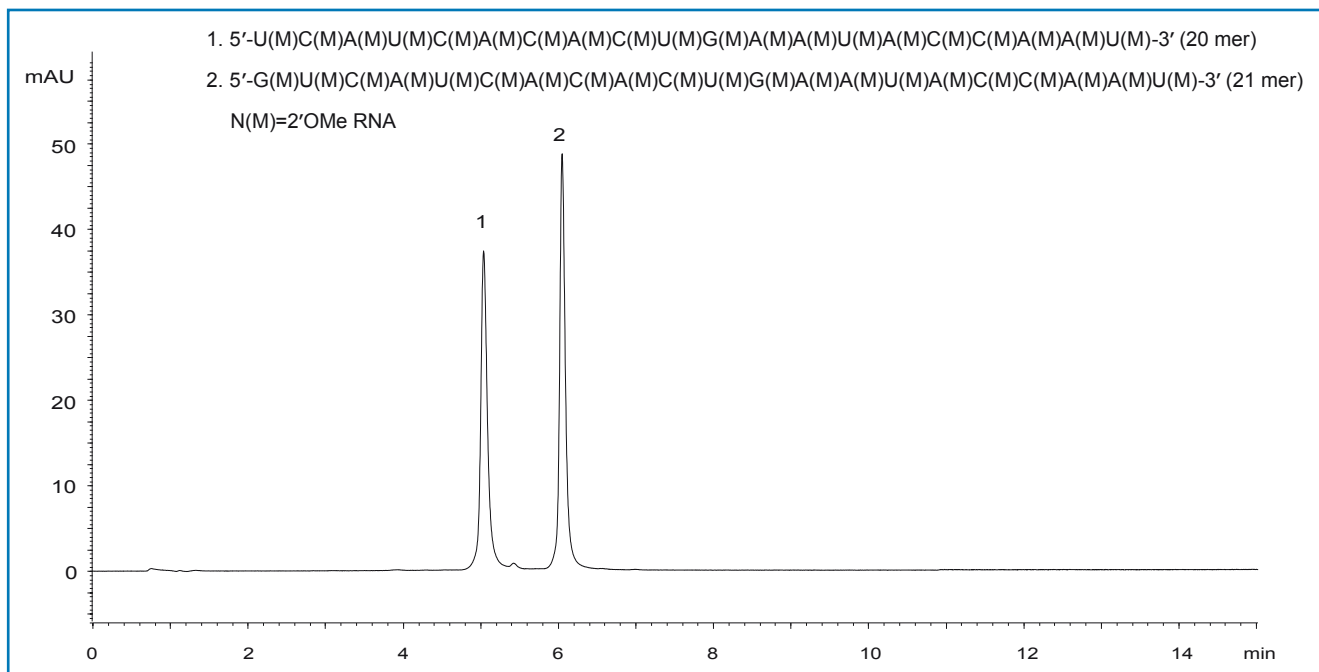


Figure 3: Separation of synthetic oligonucleotides (Single-strand RNA)

