

Supporting Information

## **Sensitive Oligodeoxynucleotide Synthesis Using Dim and Dmoc as Protecting Groups**

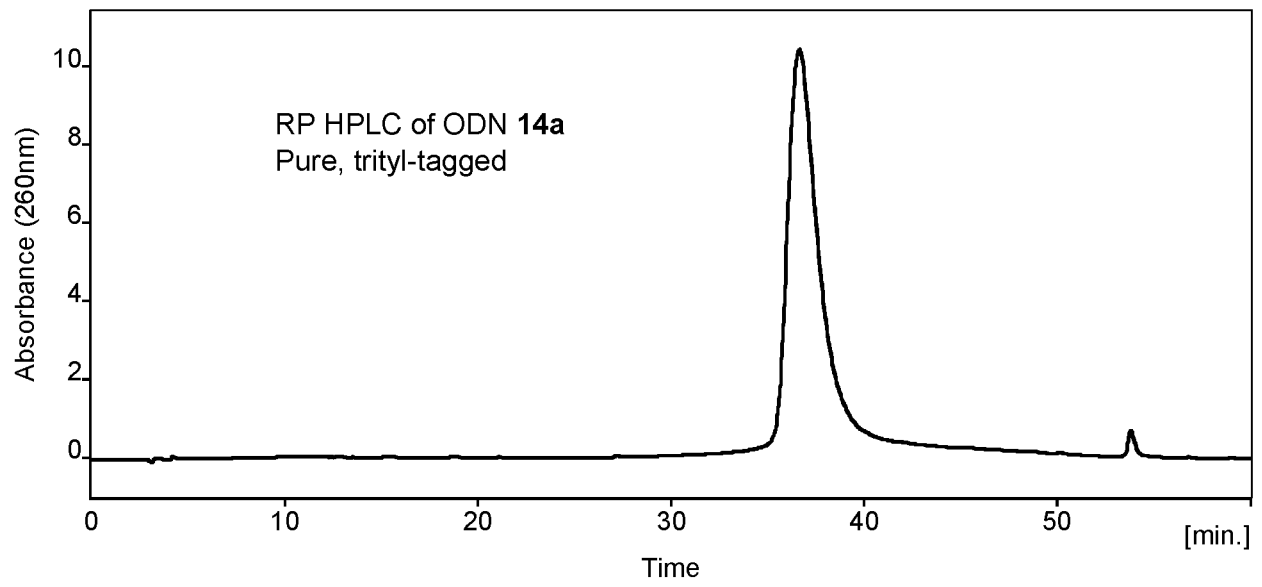
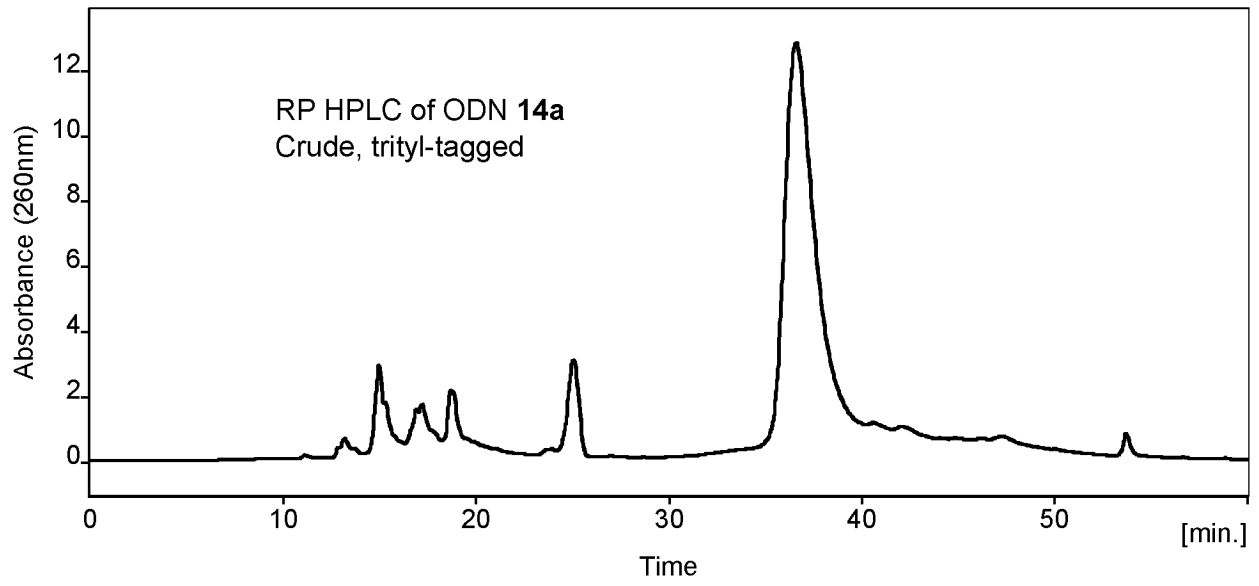
Shahien Shahsavari, Dhananjani N. A. M. Eriyagama, Jinsen Chen, Bhaskar Halami, Yipeng Yin, Komal Chillar and Shiyue Fang\*

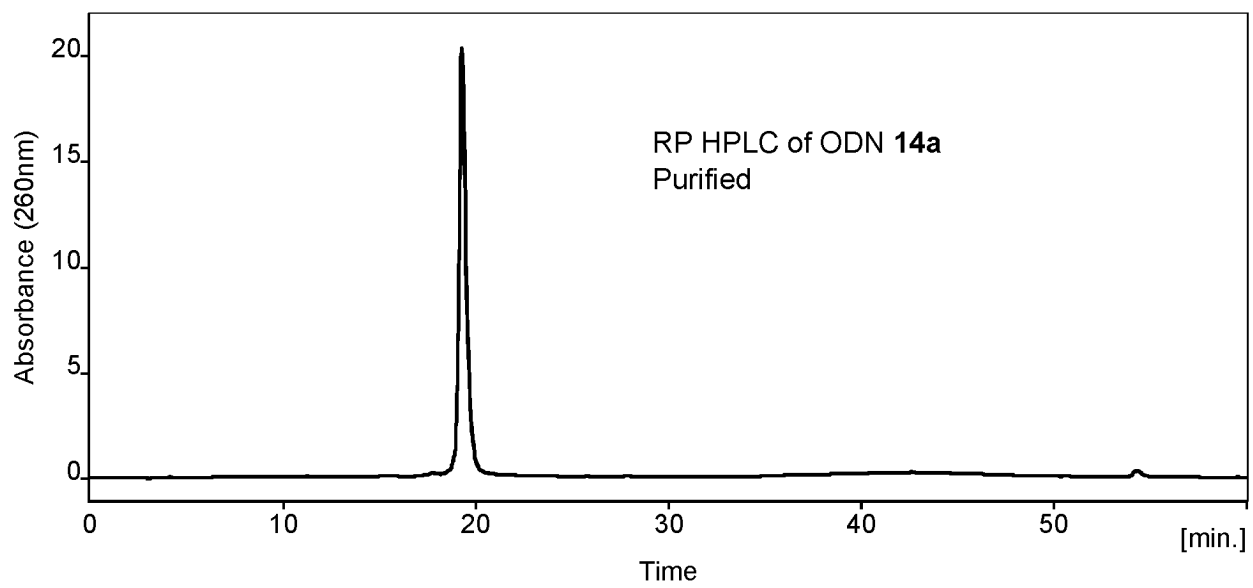
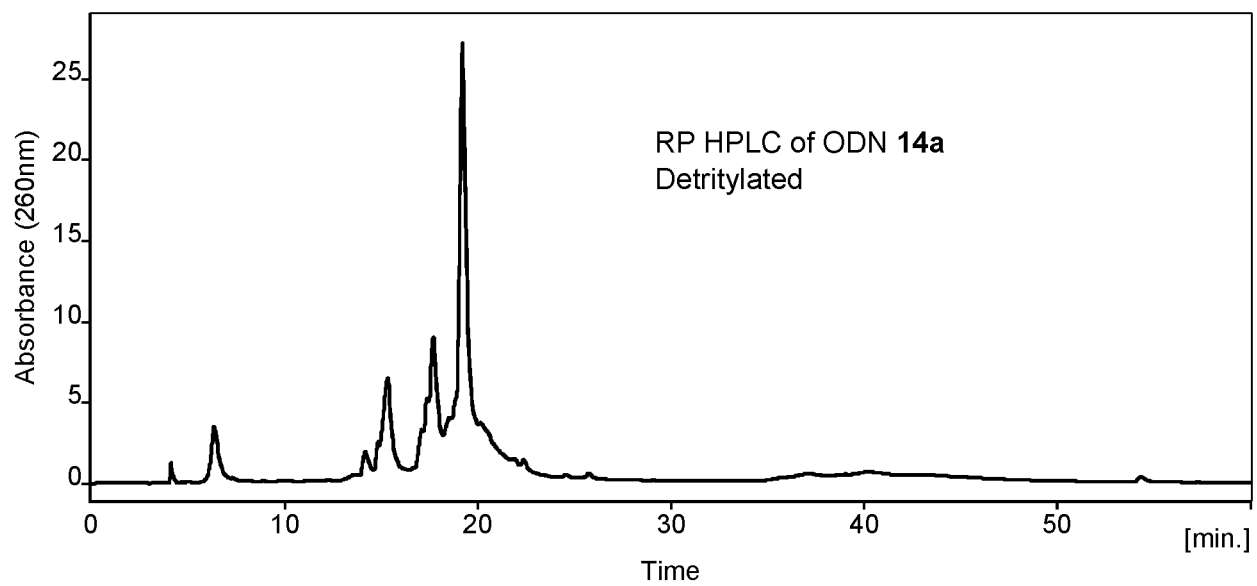
Department of Chemistry, Michigan Technological University, 1400 Townsend Drive, Houghton, MI 49931, USA

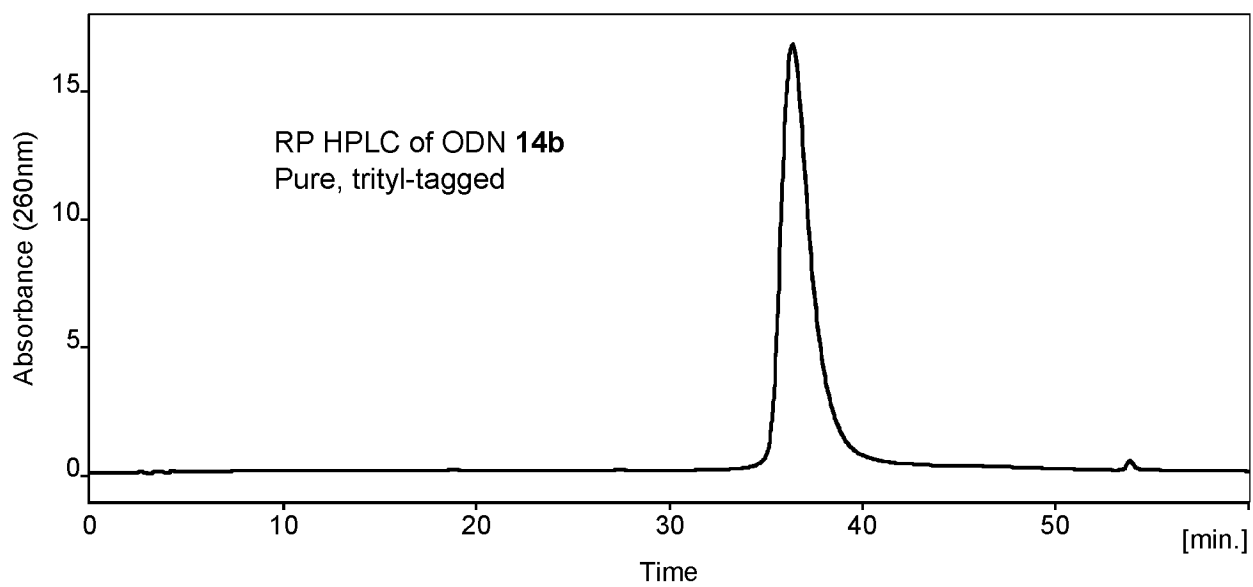
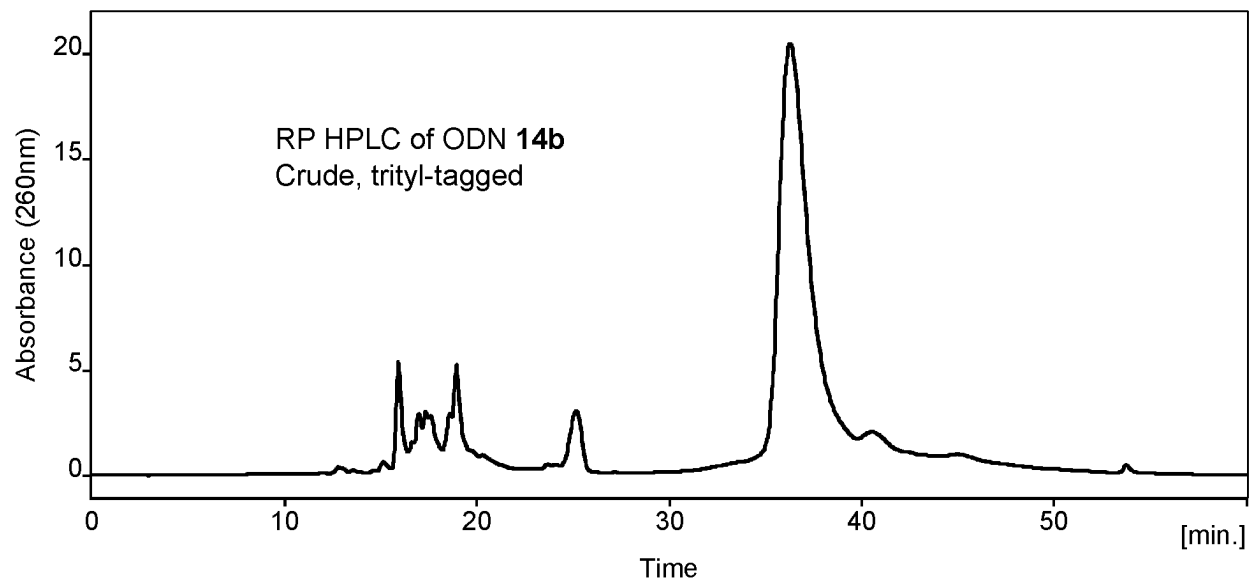
Email: [shifang@mtu.edu](mailto:shifang@mtu.edu)

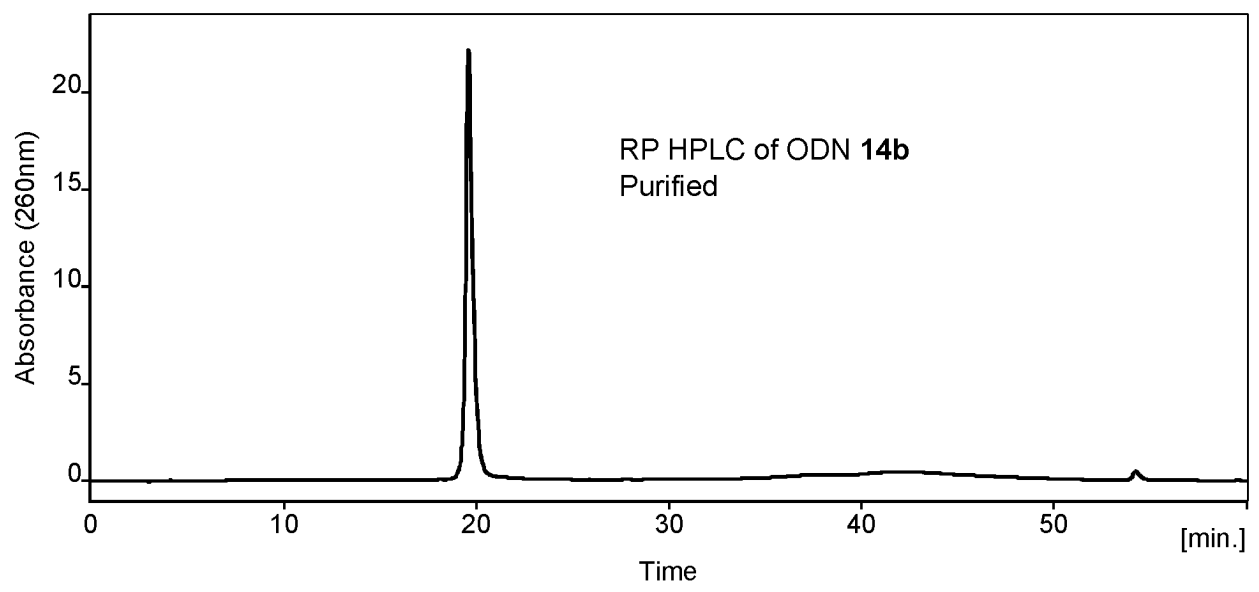
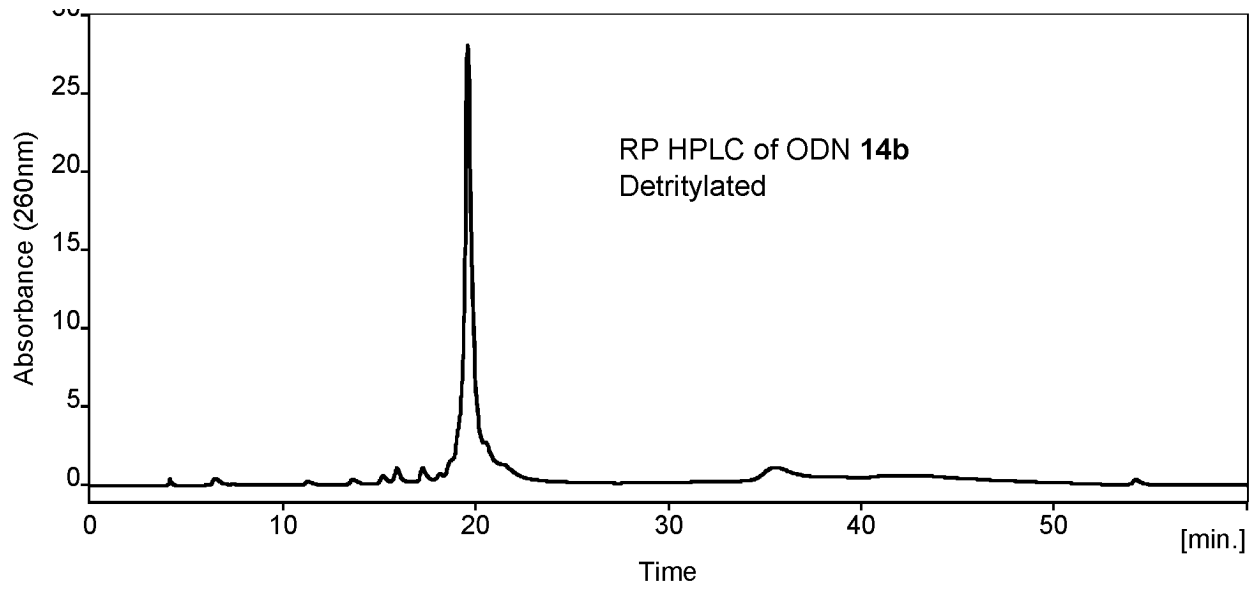
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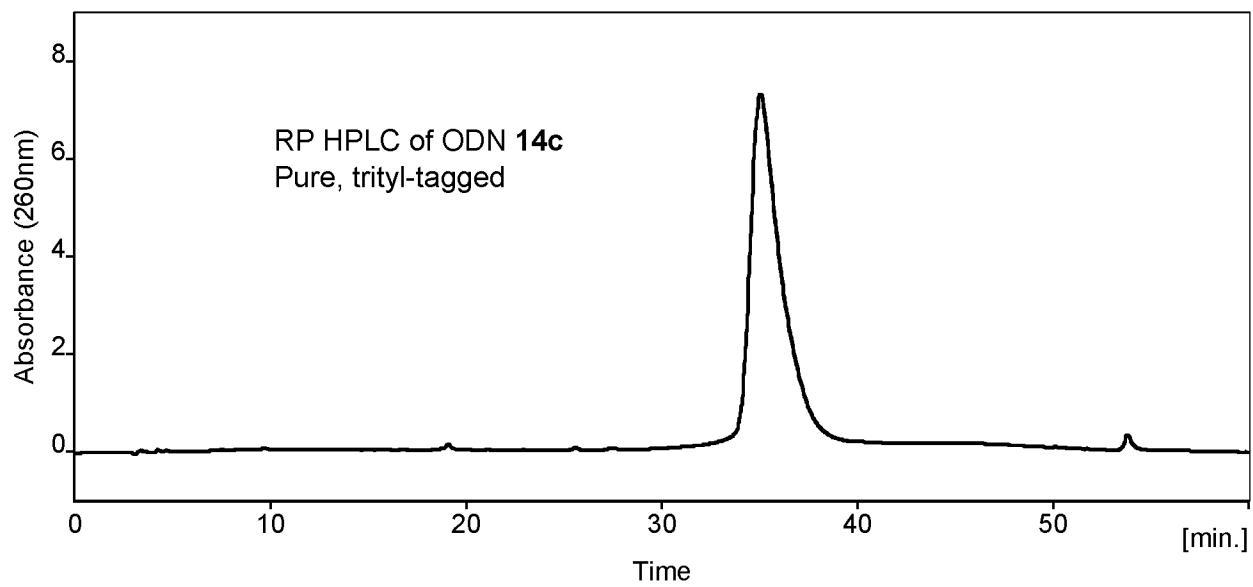
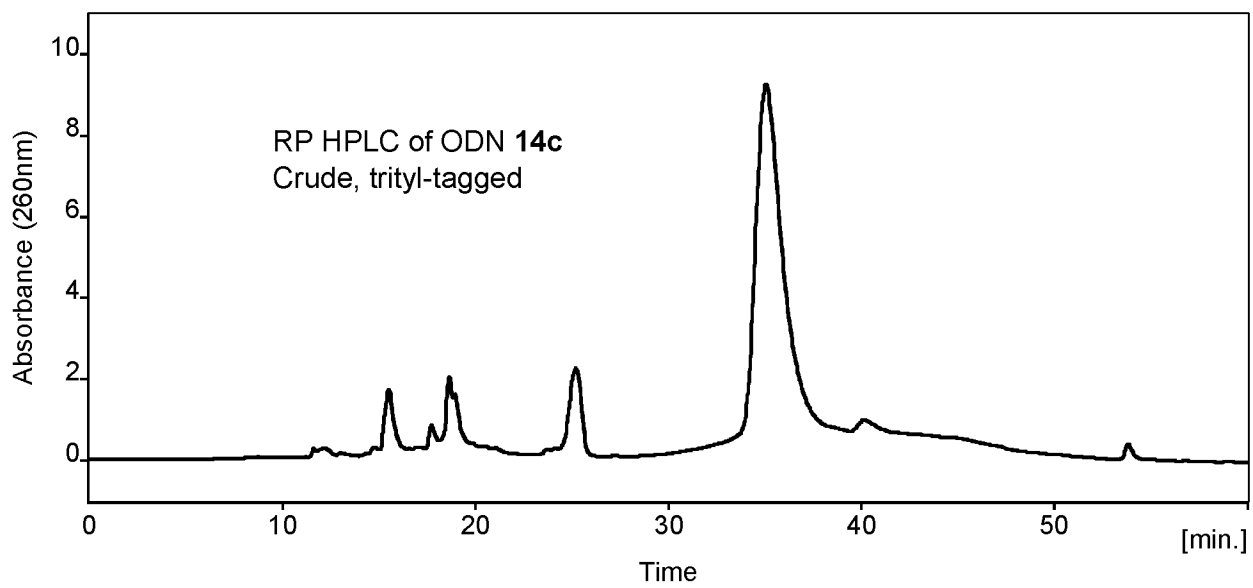
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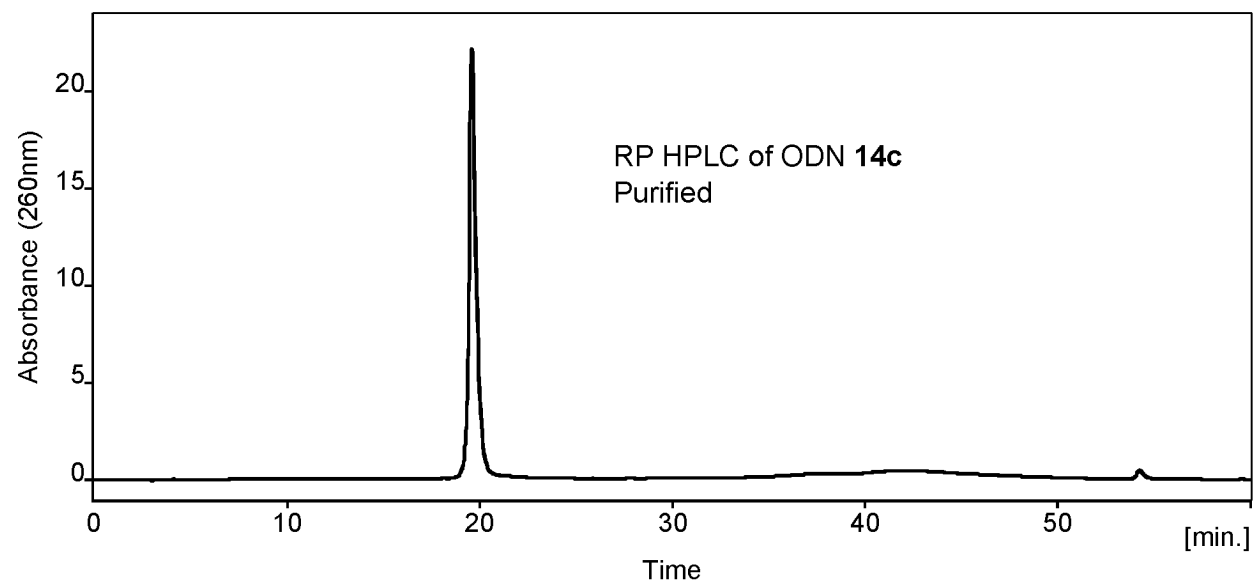
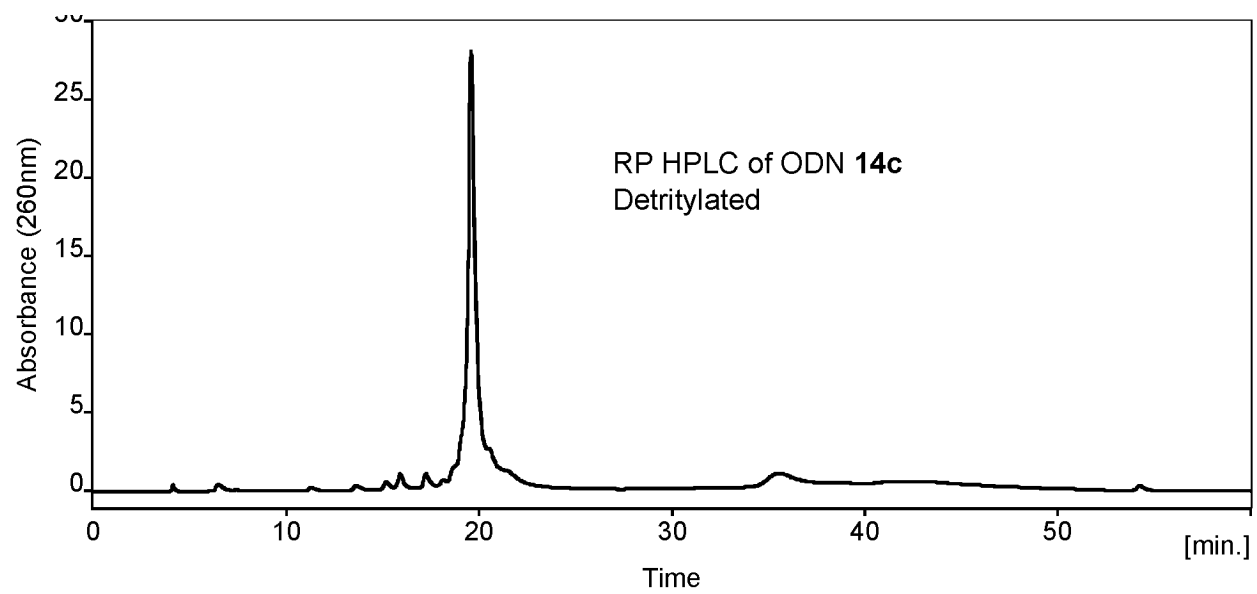


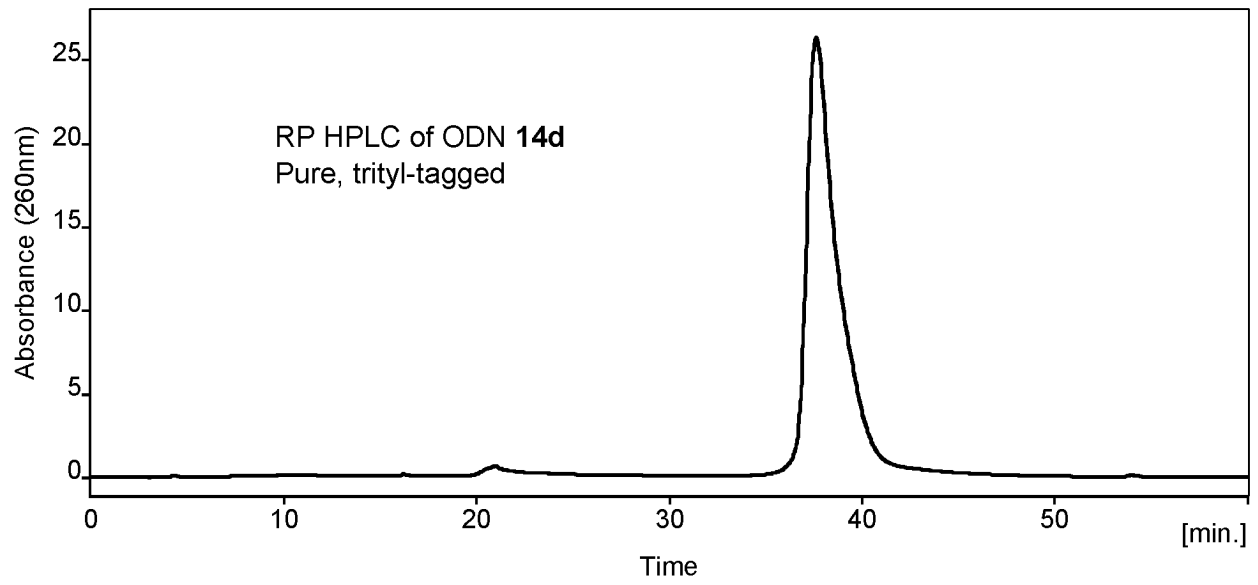
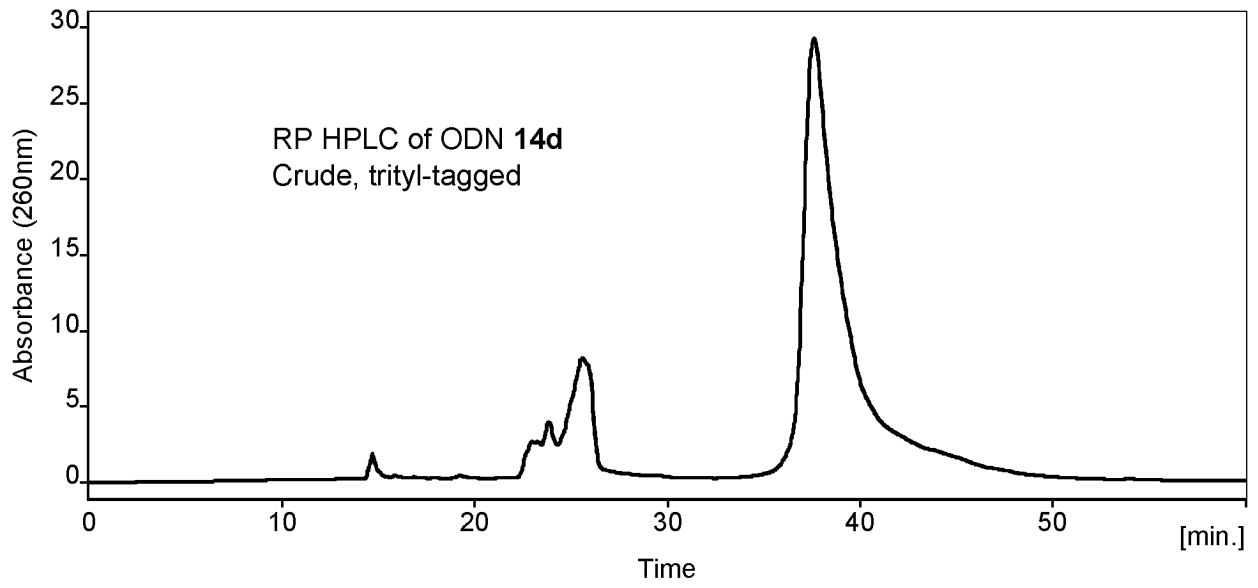




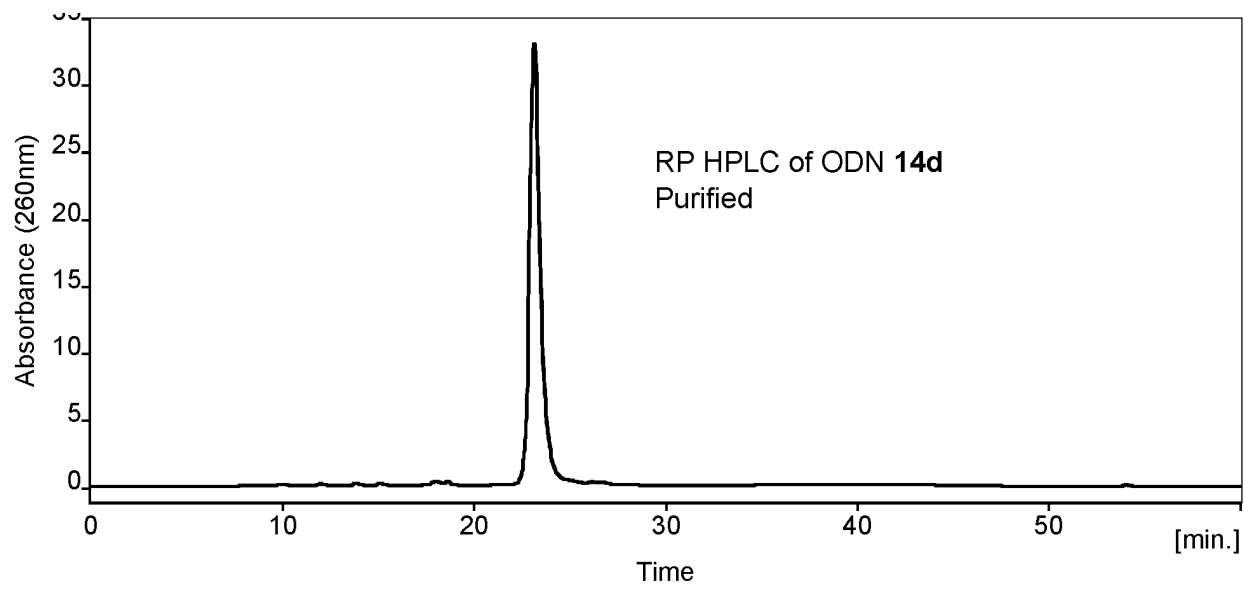
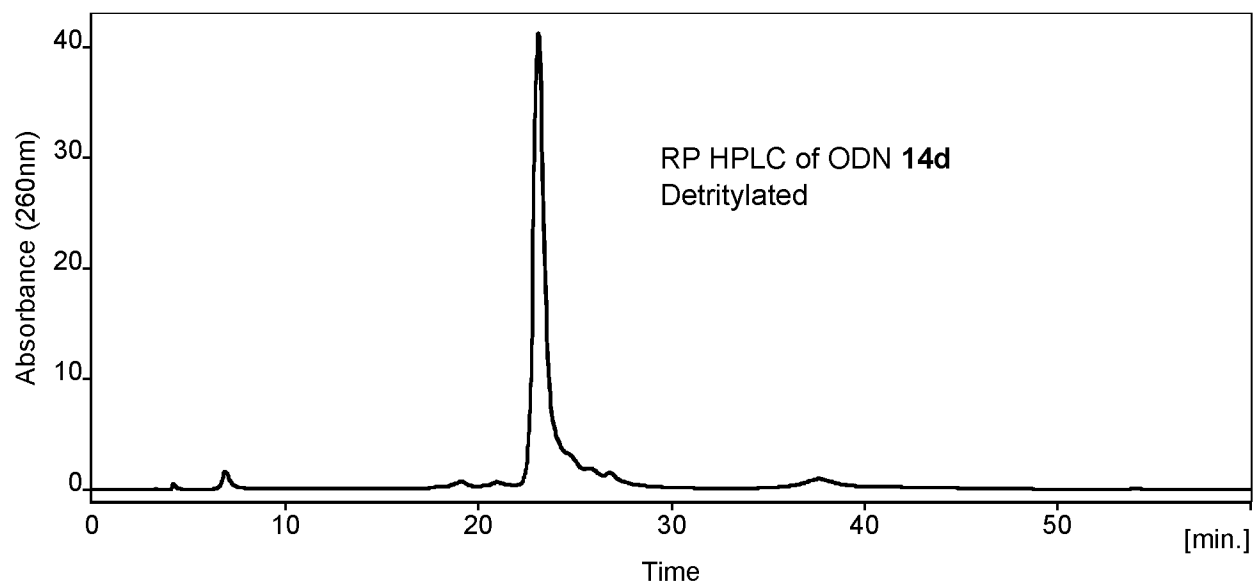


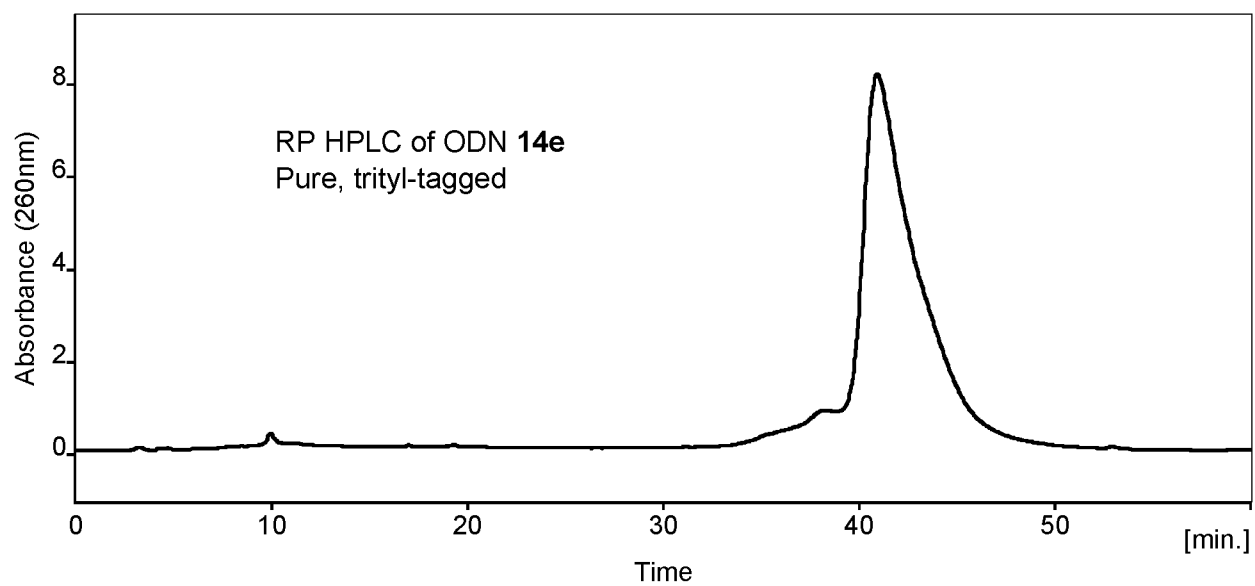
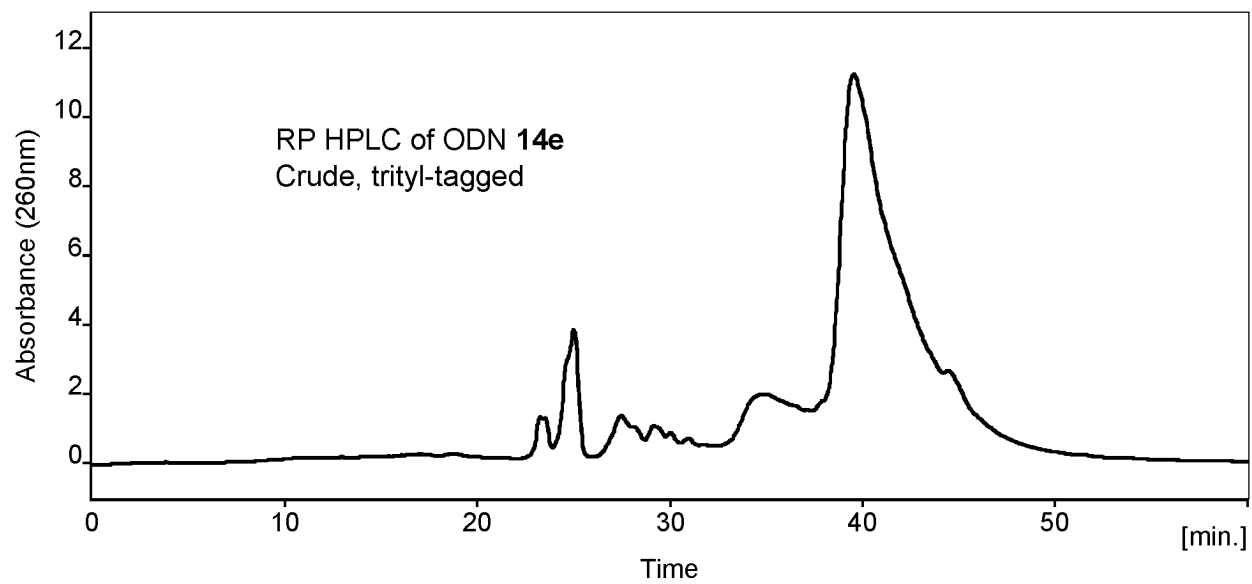


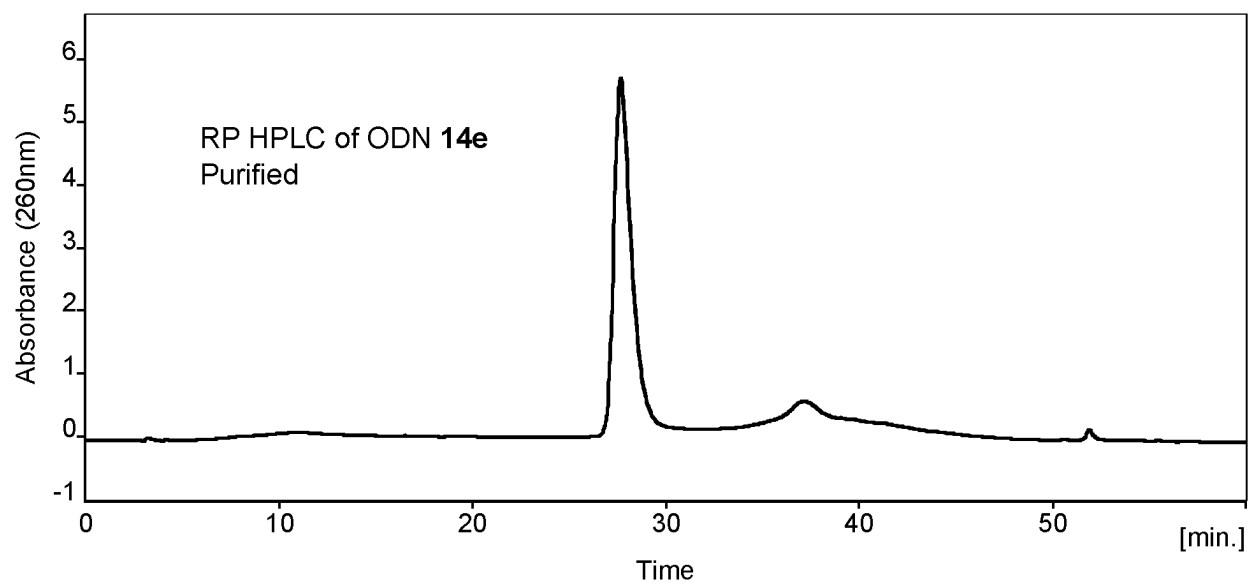
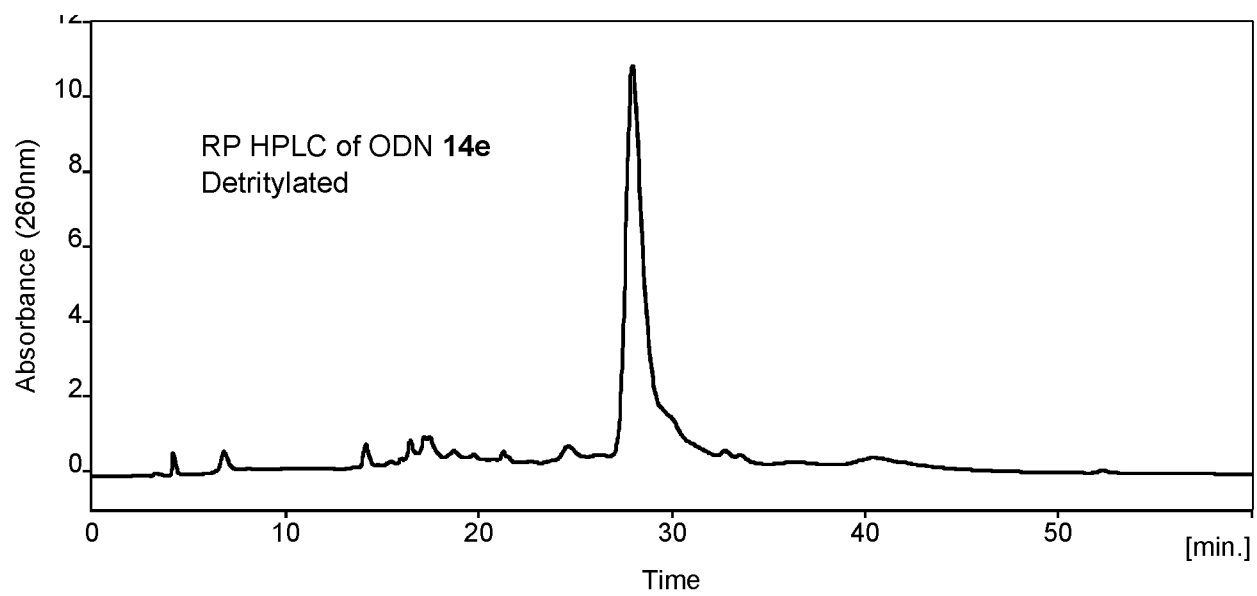


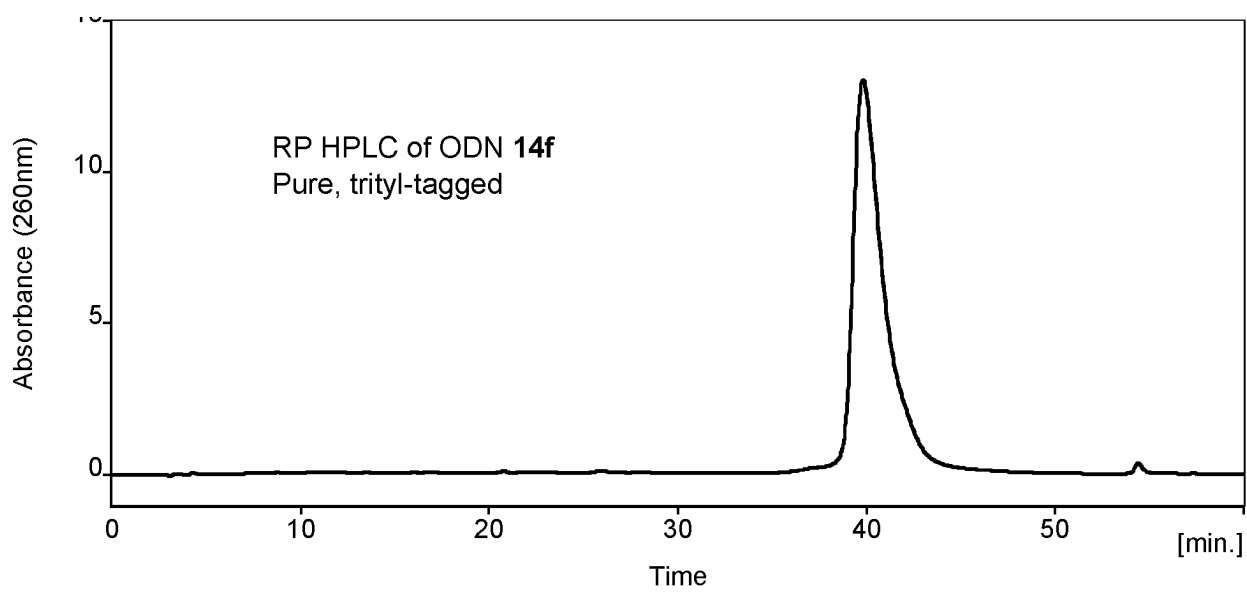
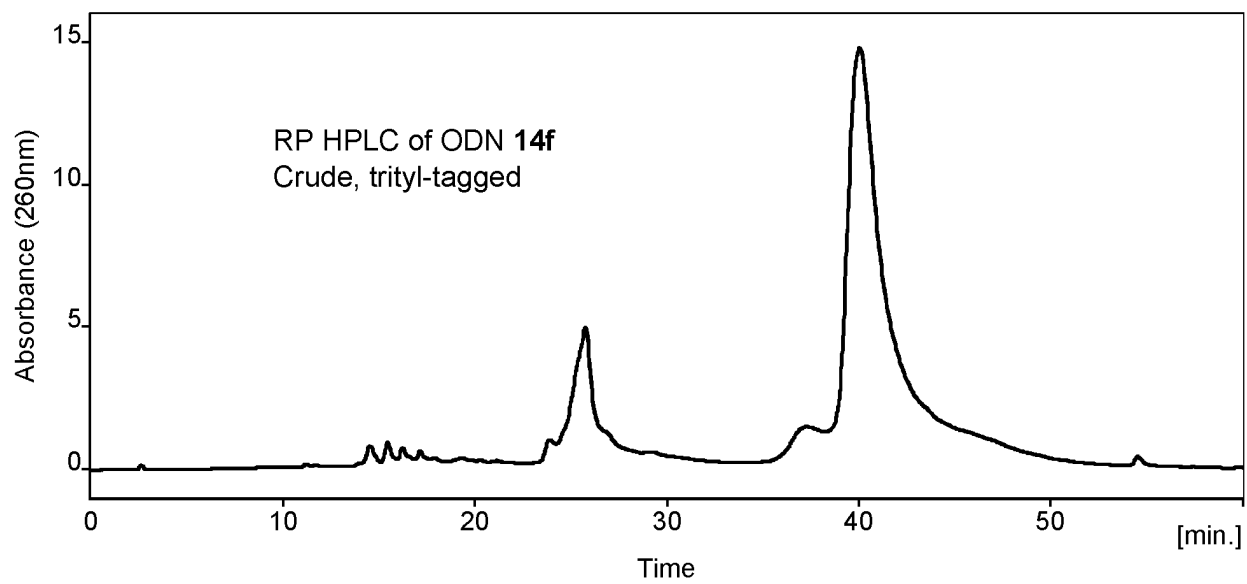


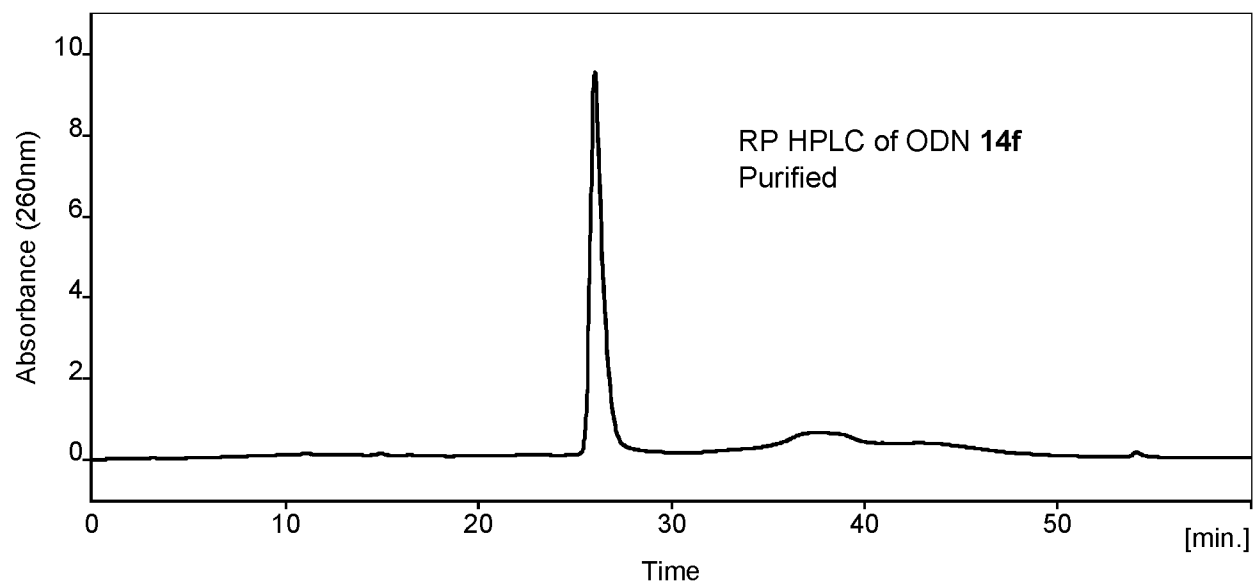
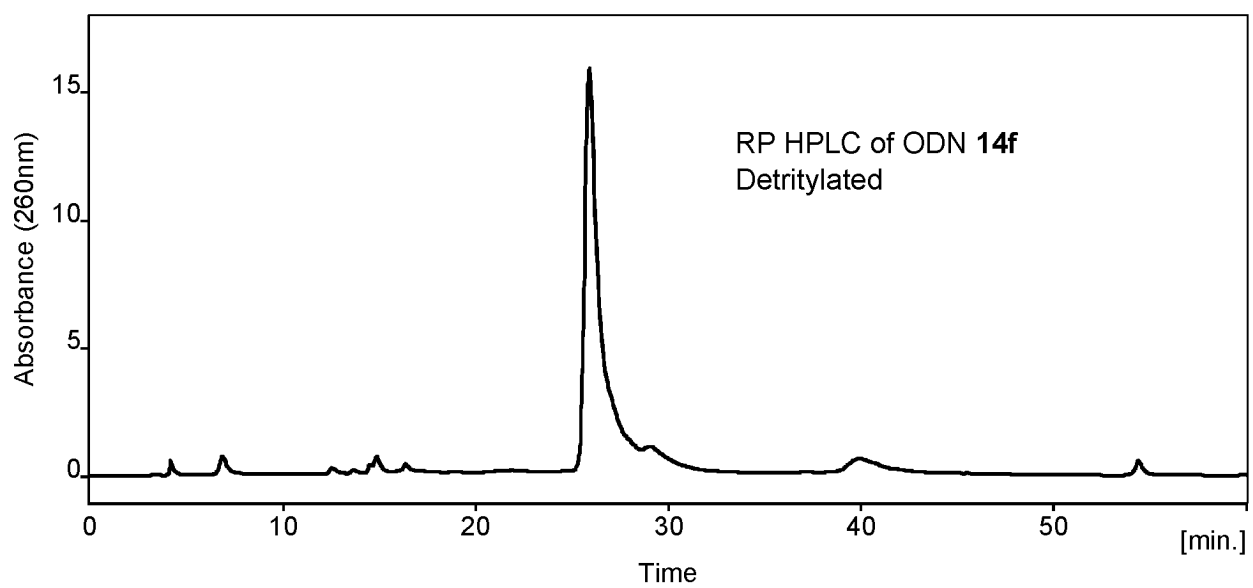


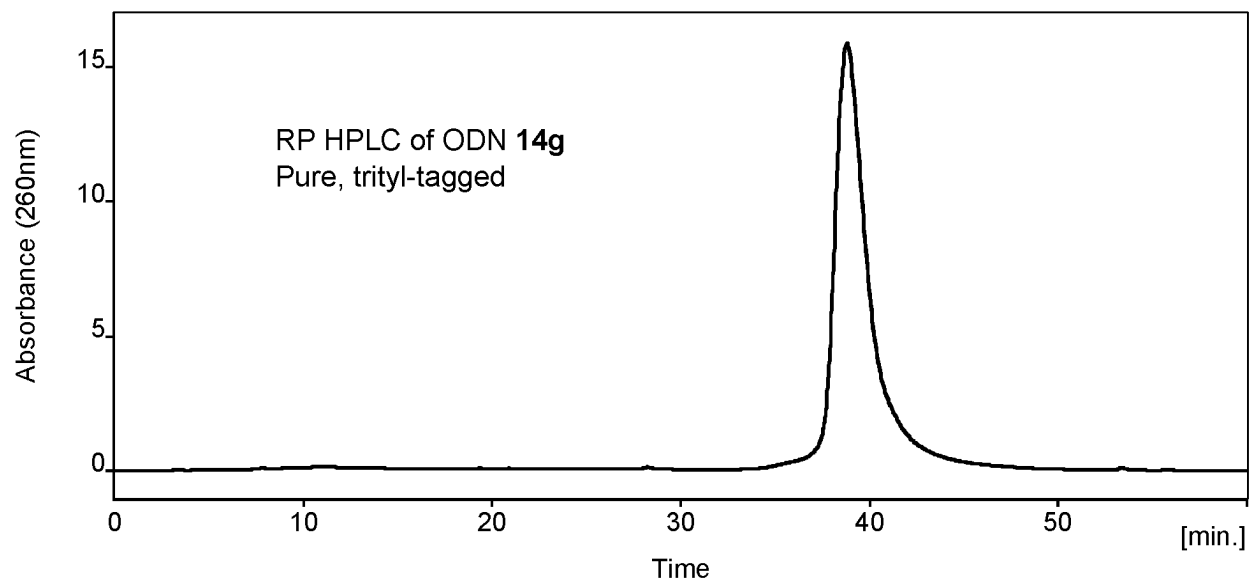
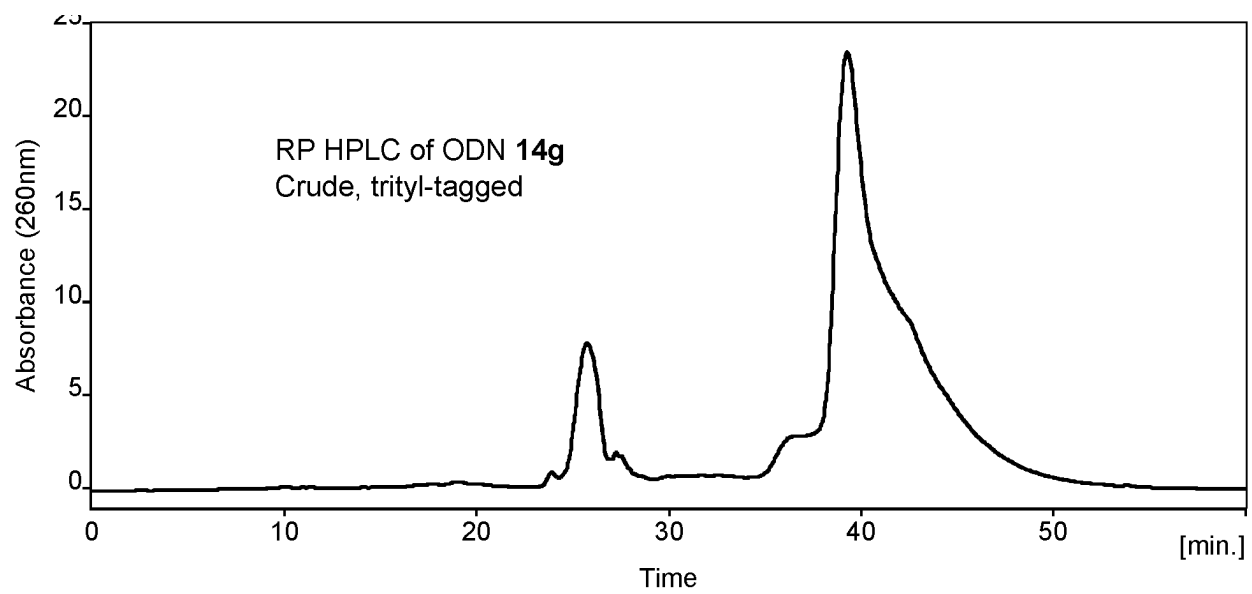


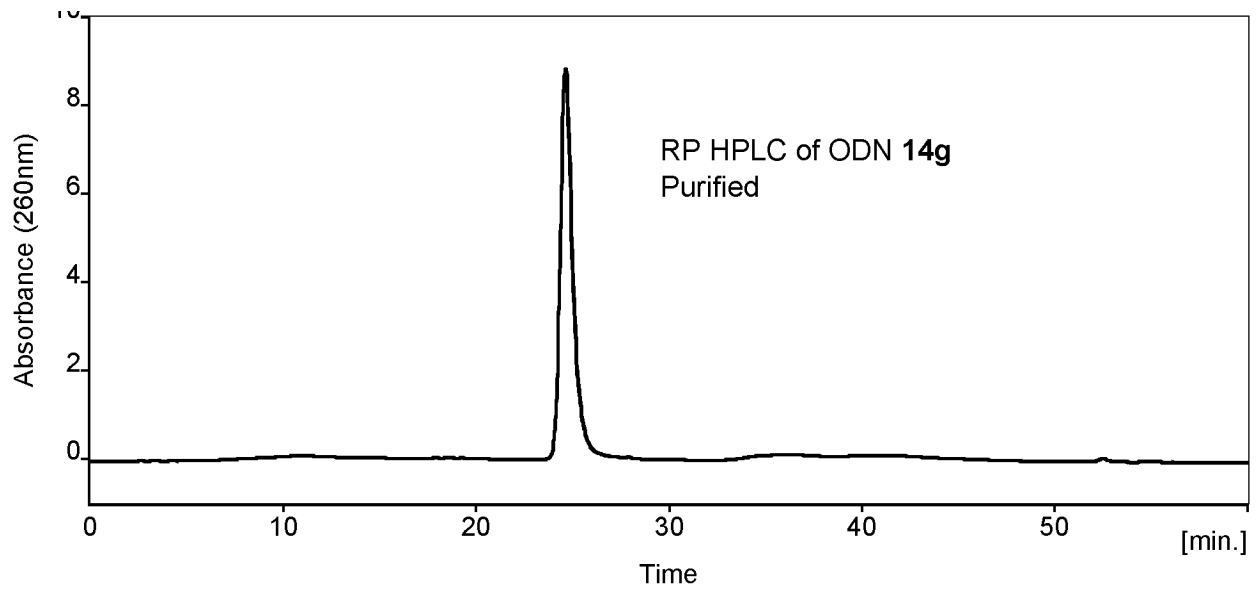
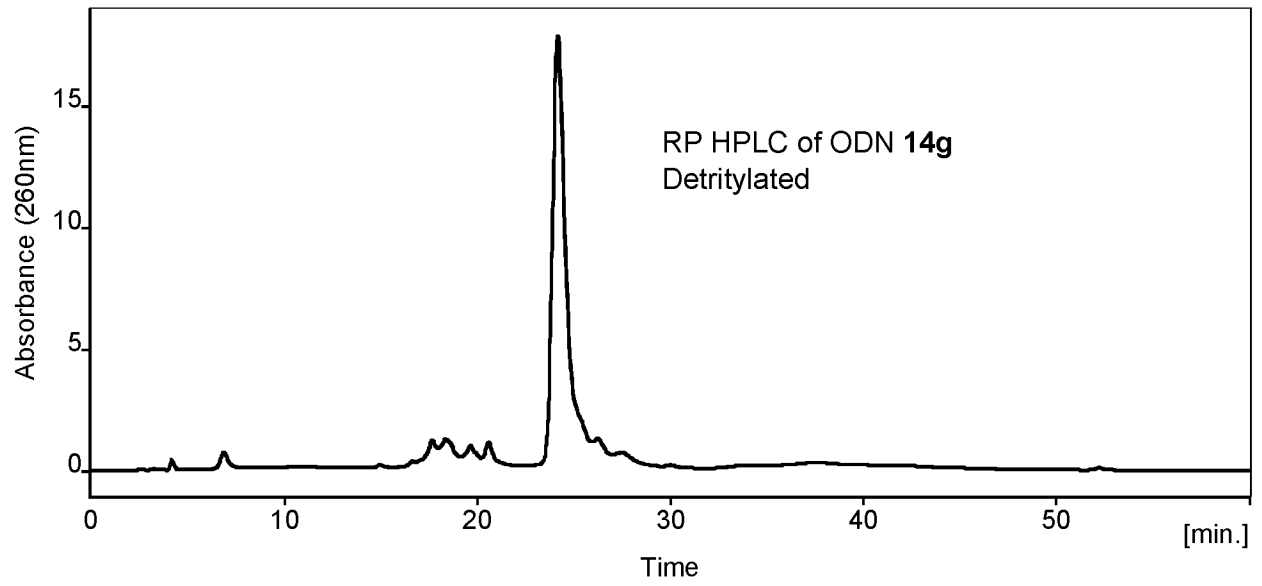


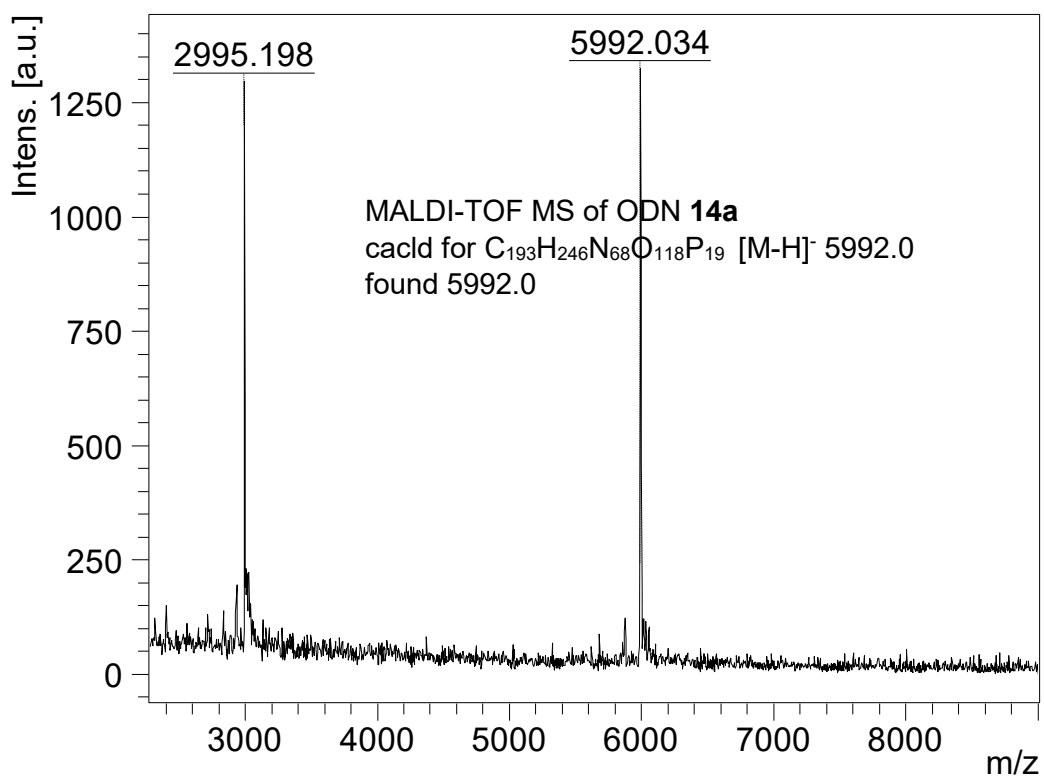
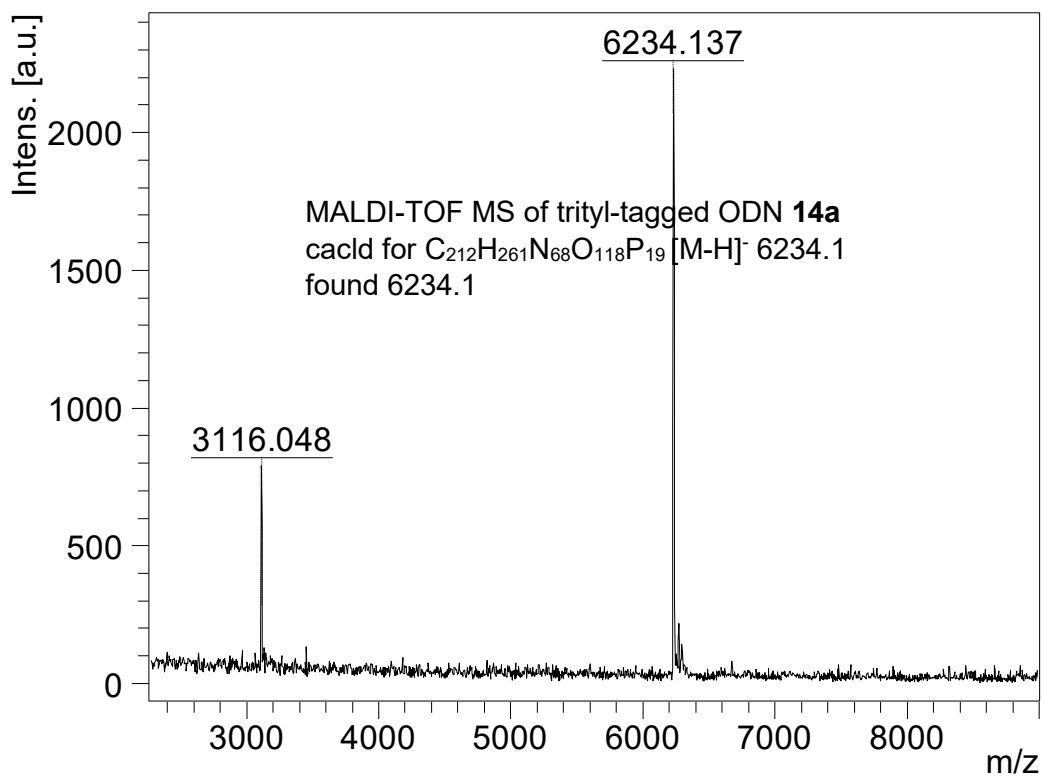




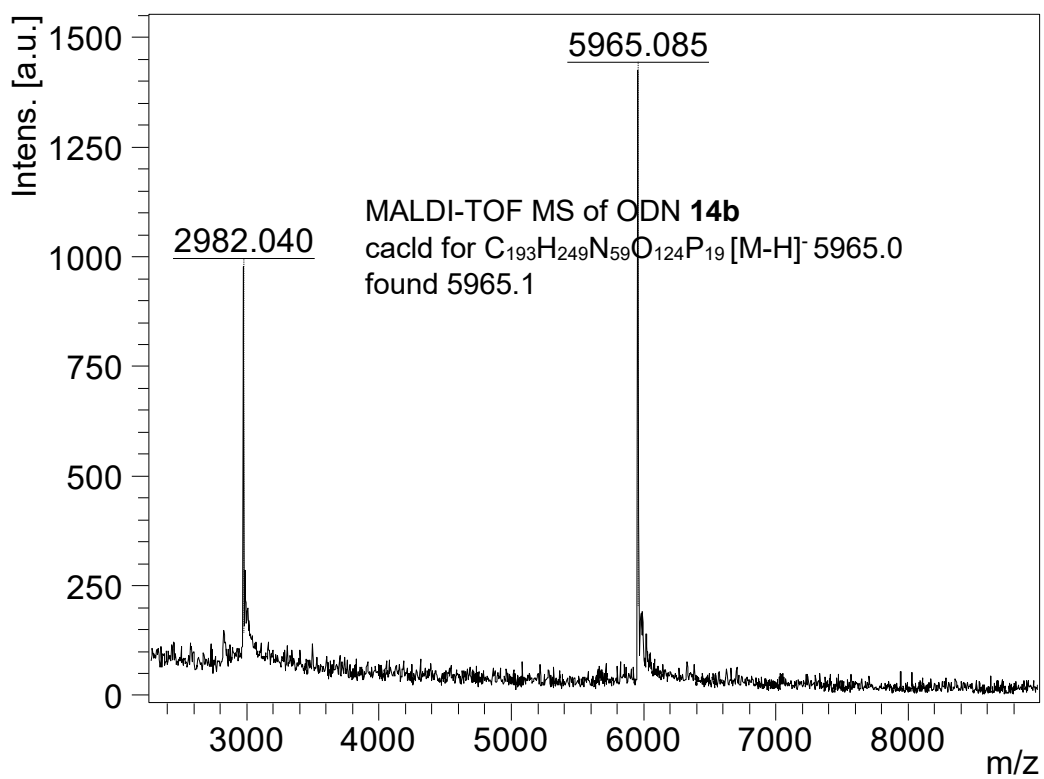
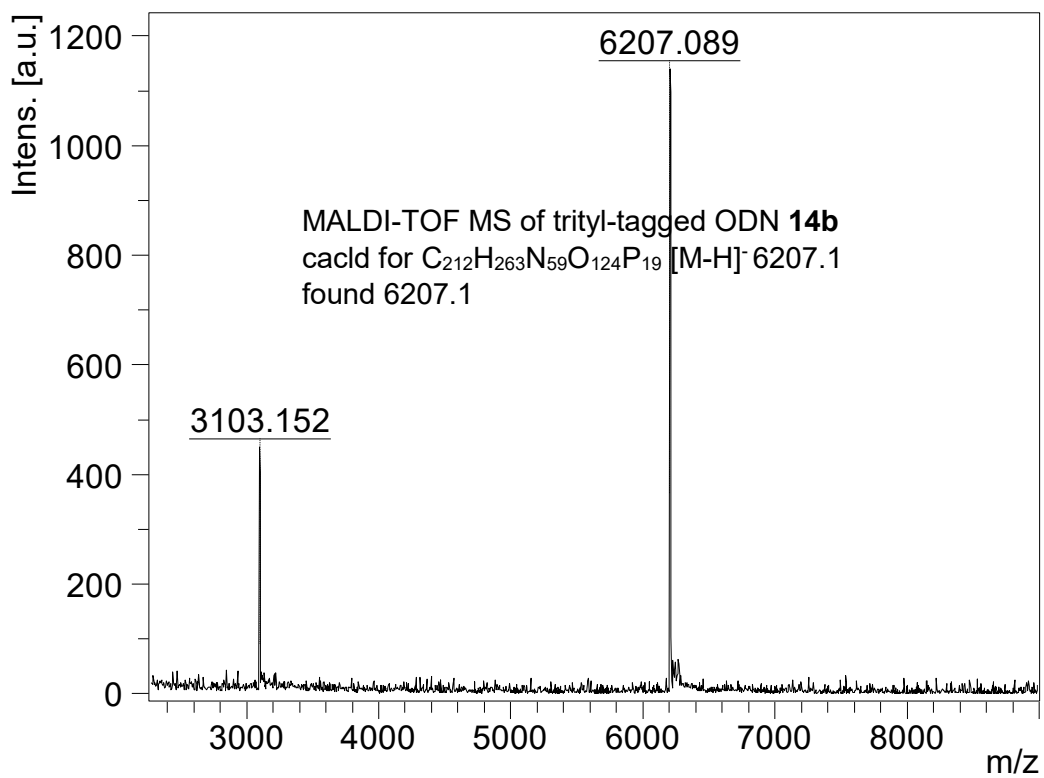


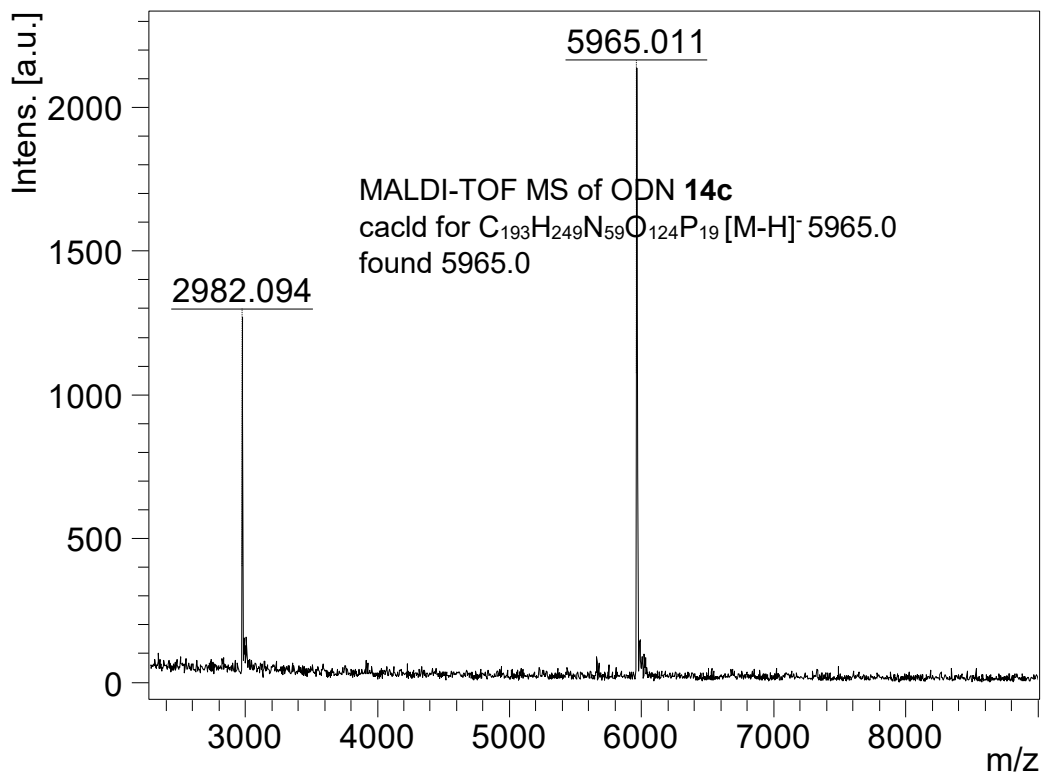
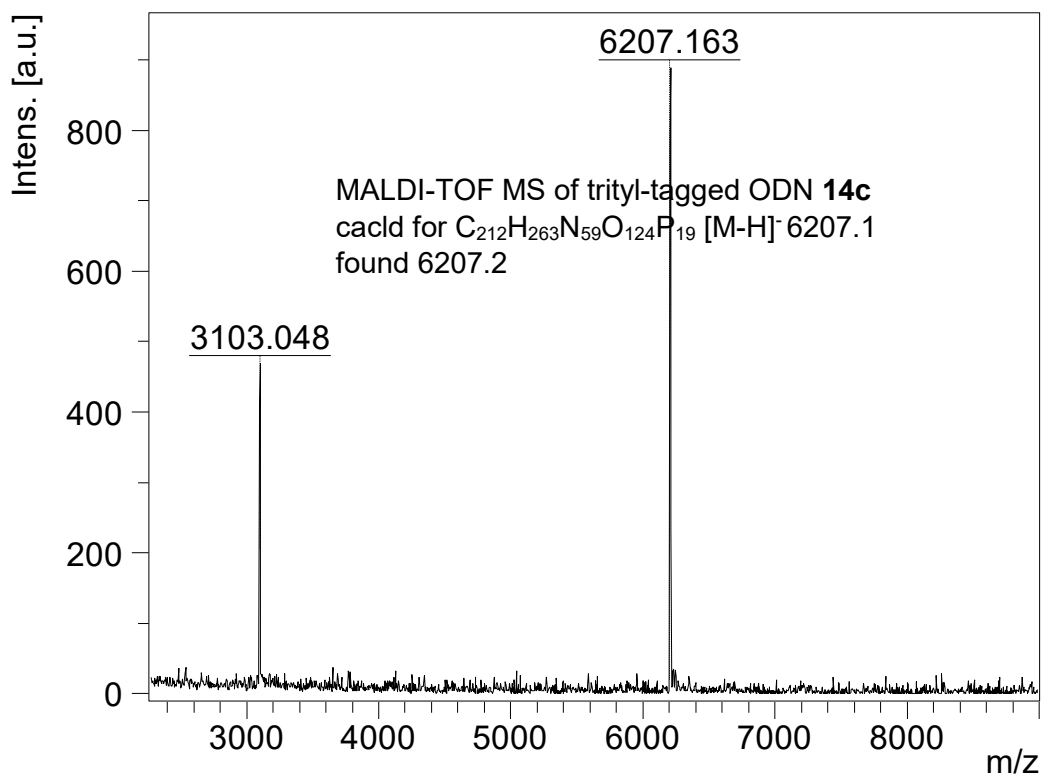


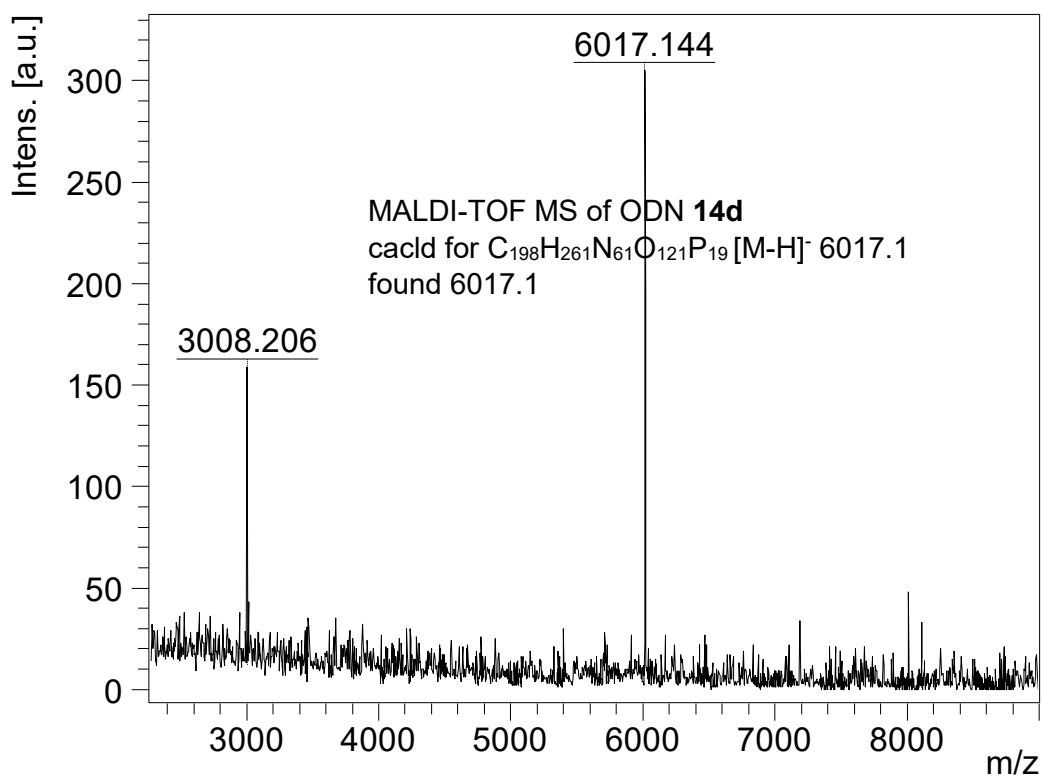
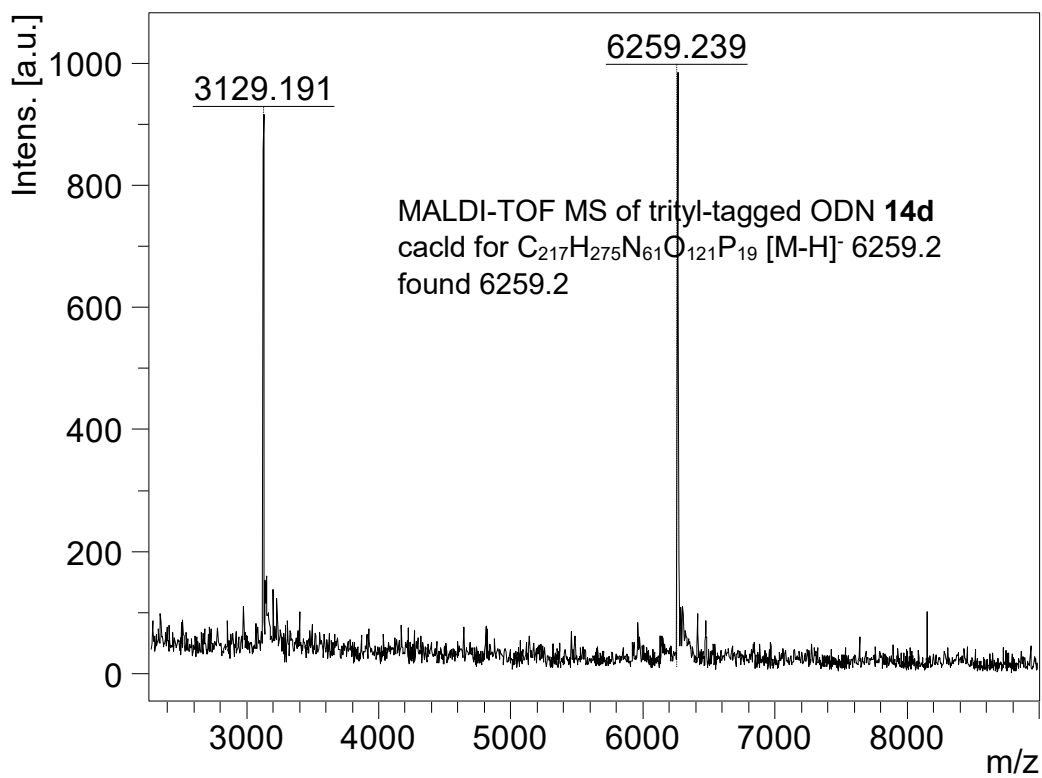


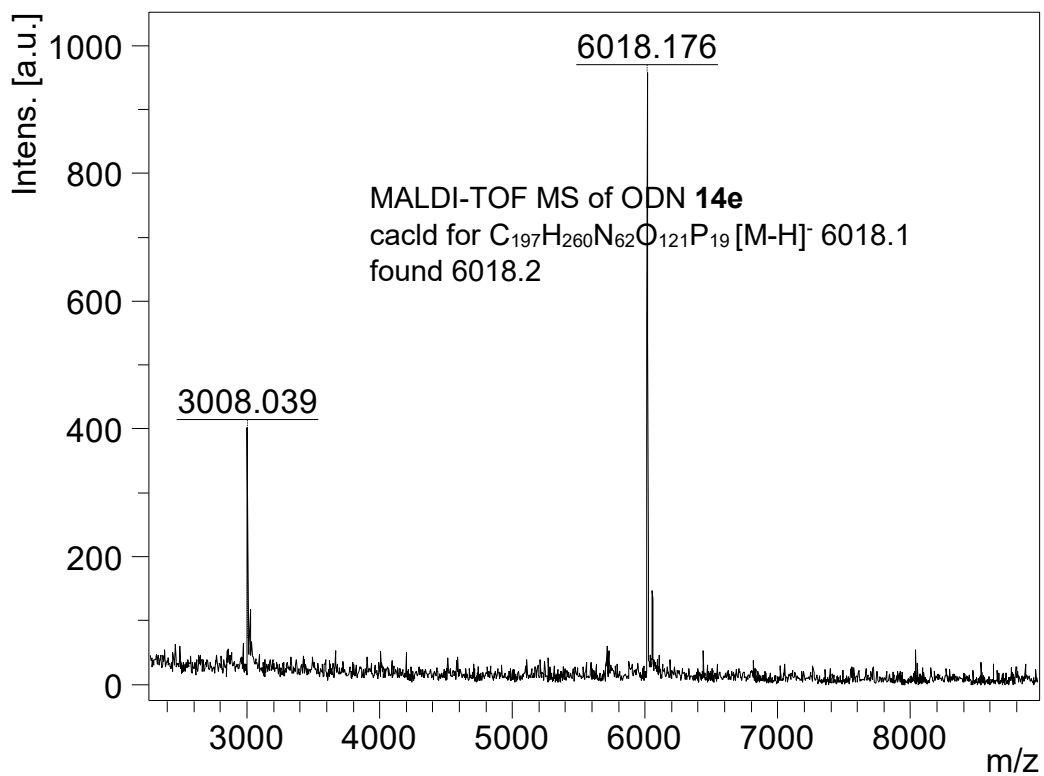
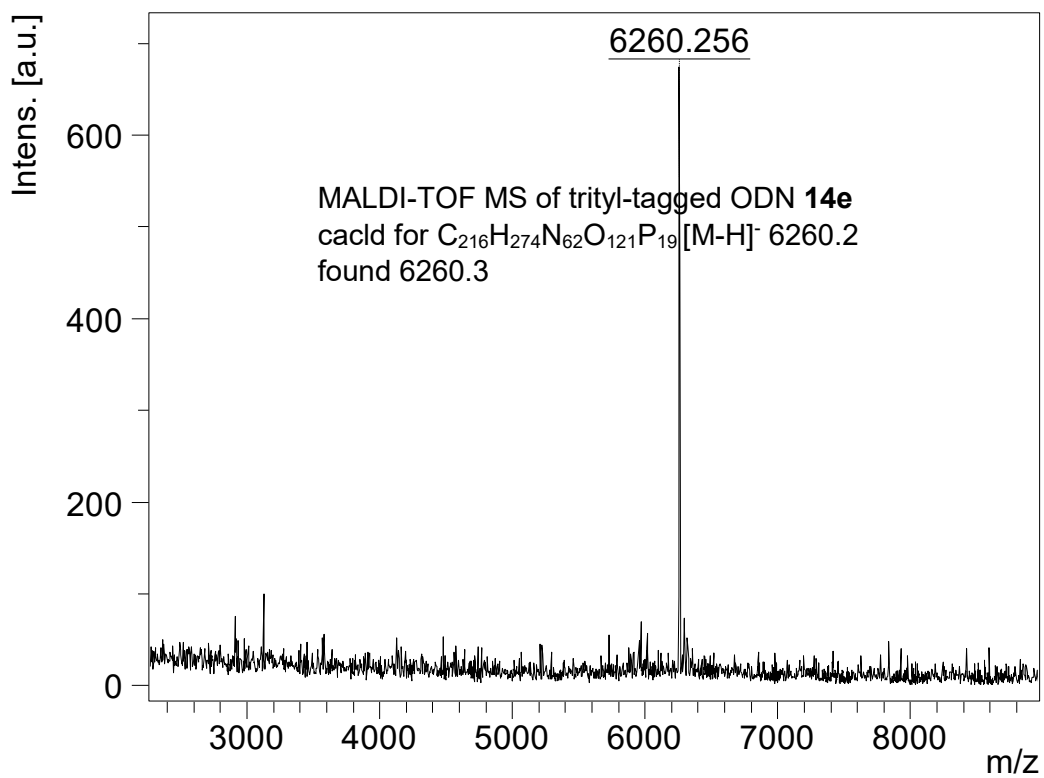


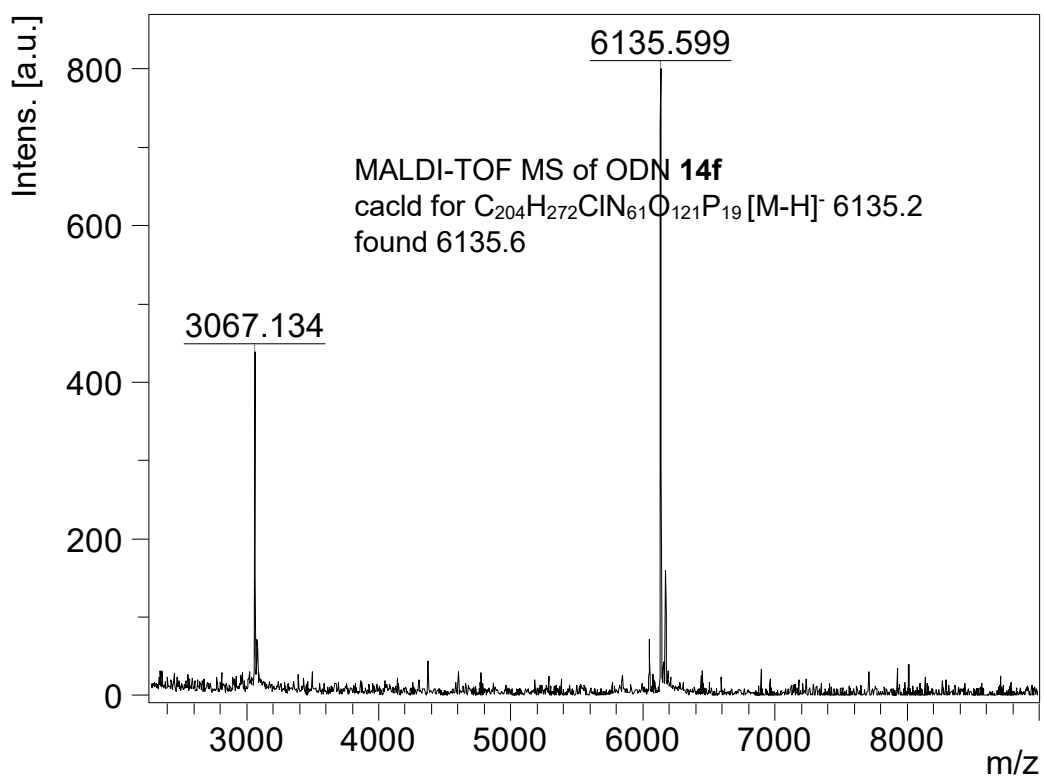
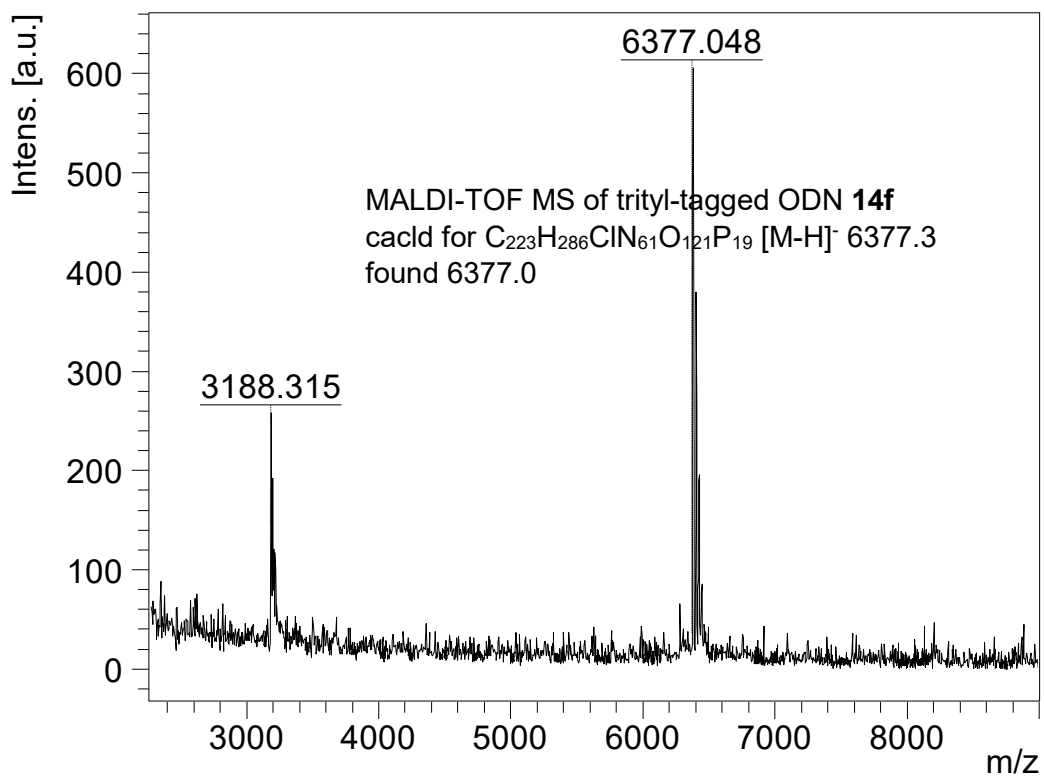


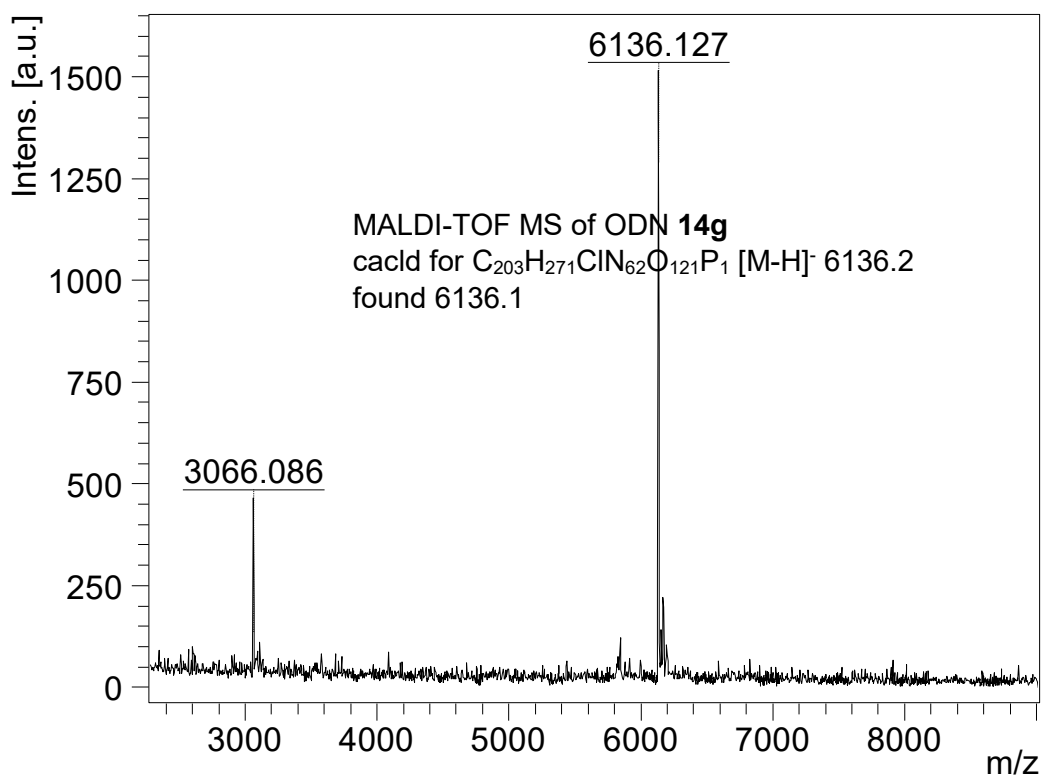
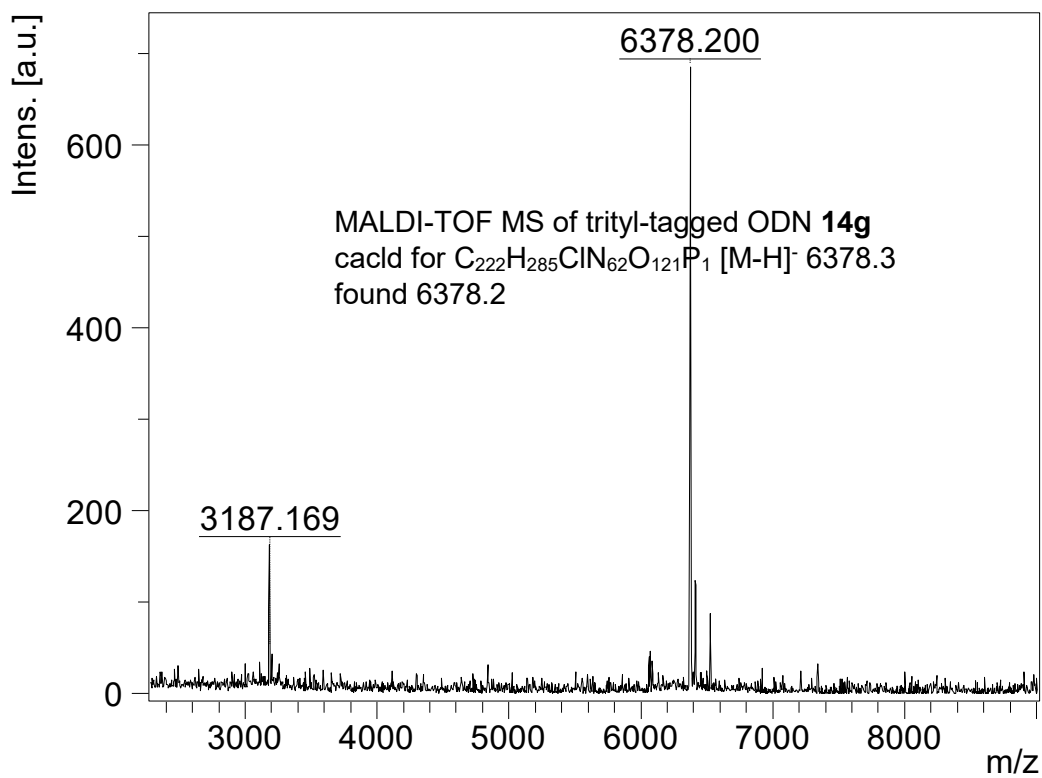


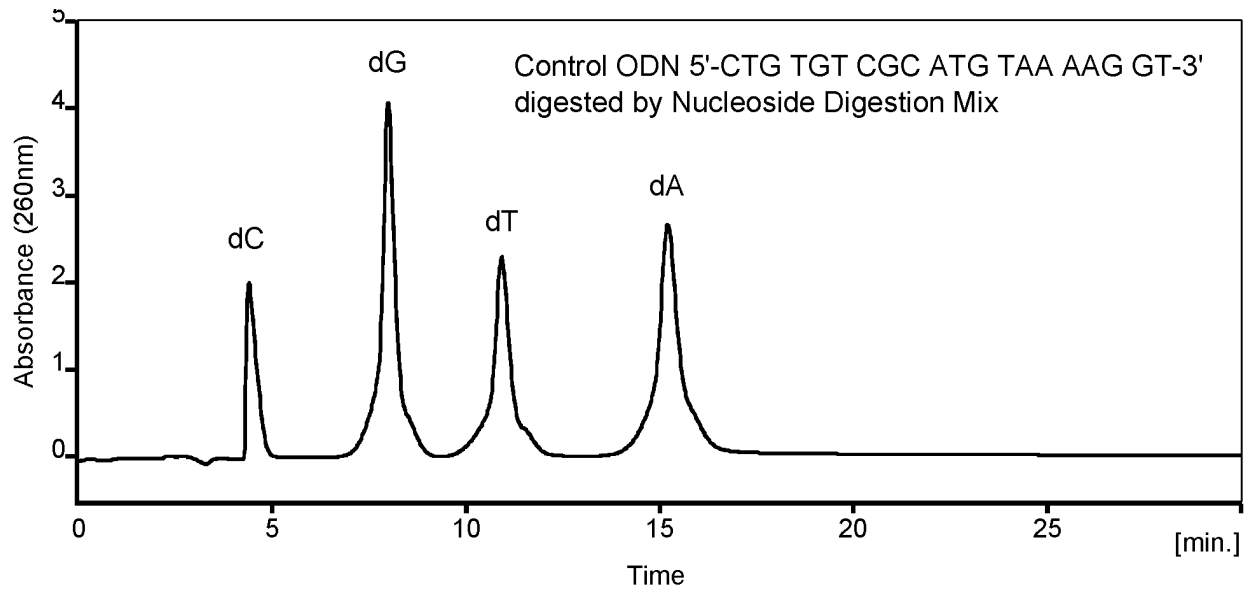




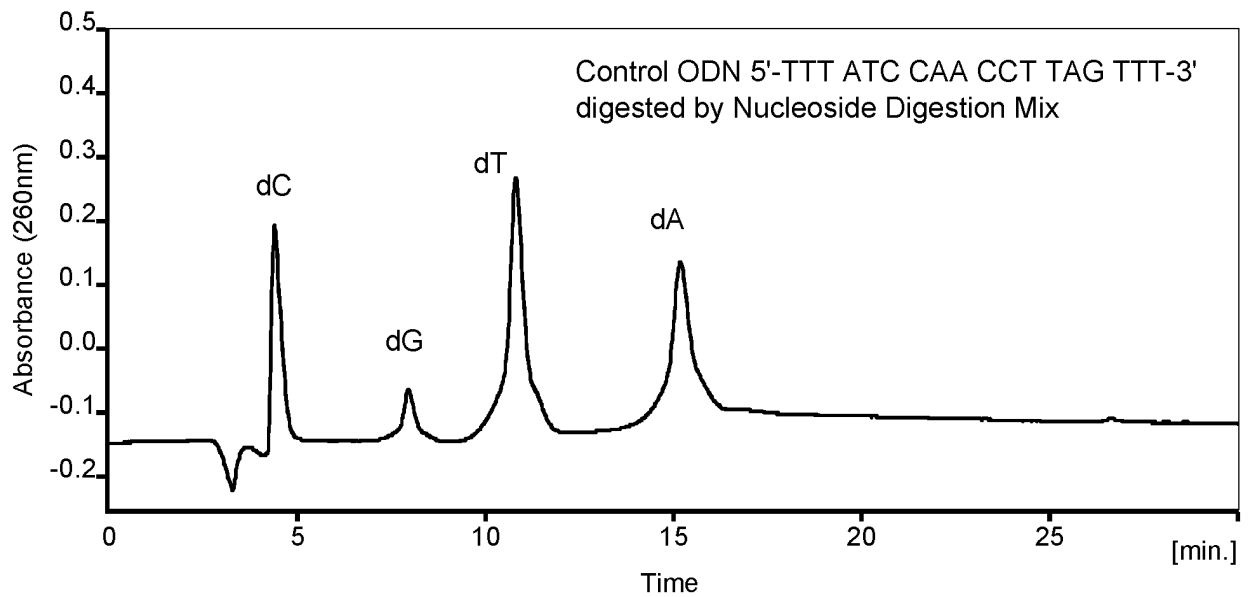




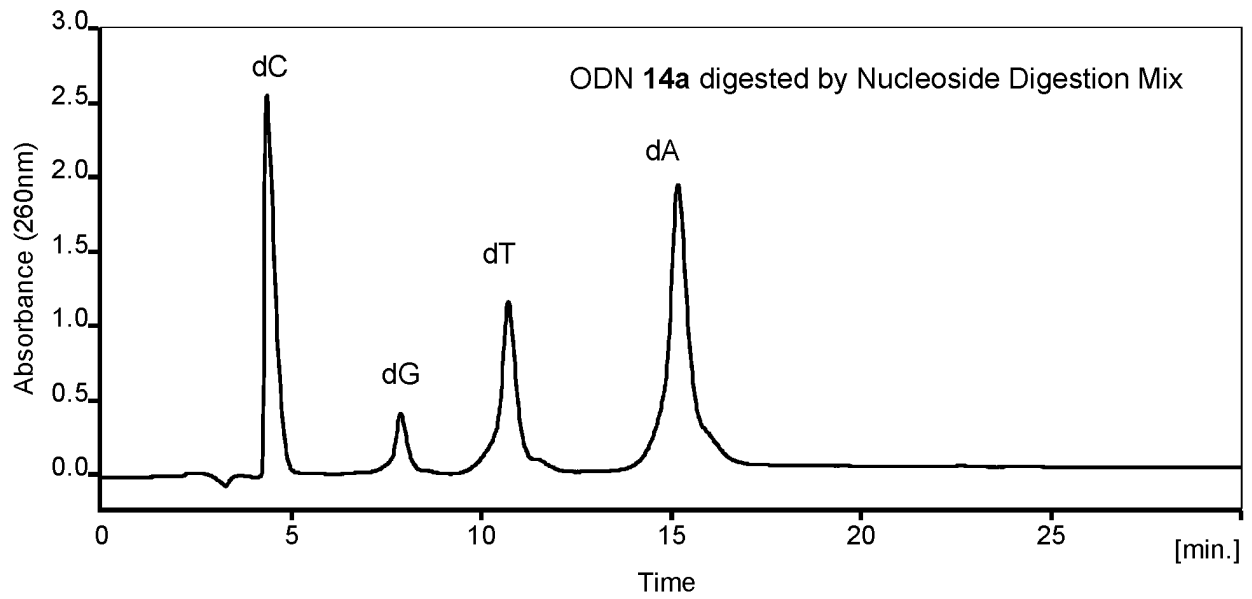




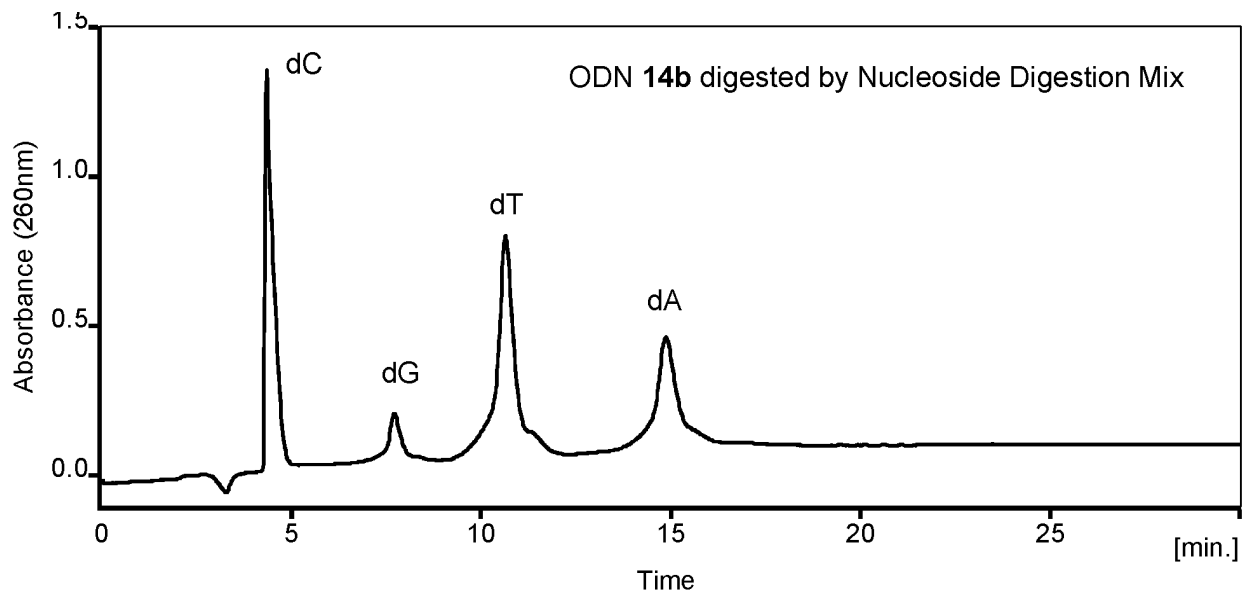
RP HPLC of nucleosides from enzyme digestion of the control ODN 5'-CTG TGT CGC ATG TAA AAG GT-3'



RP HPLC of nucleosides from enzyme digestion of the control ODN 5'-TTT ATC CAA CCT TAG TTT-3'

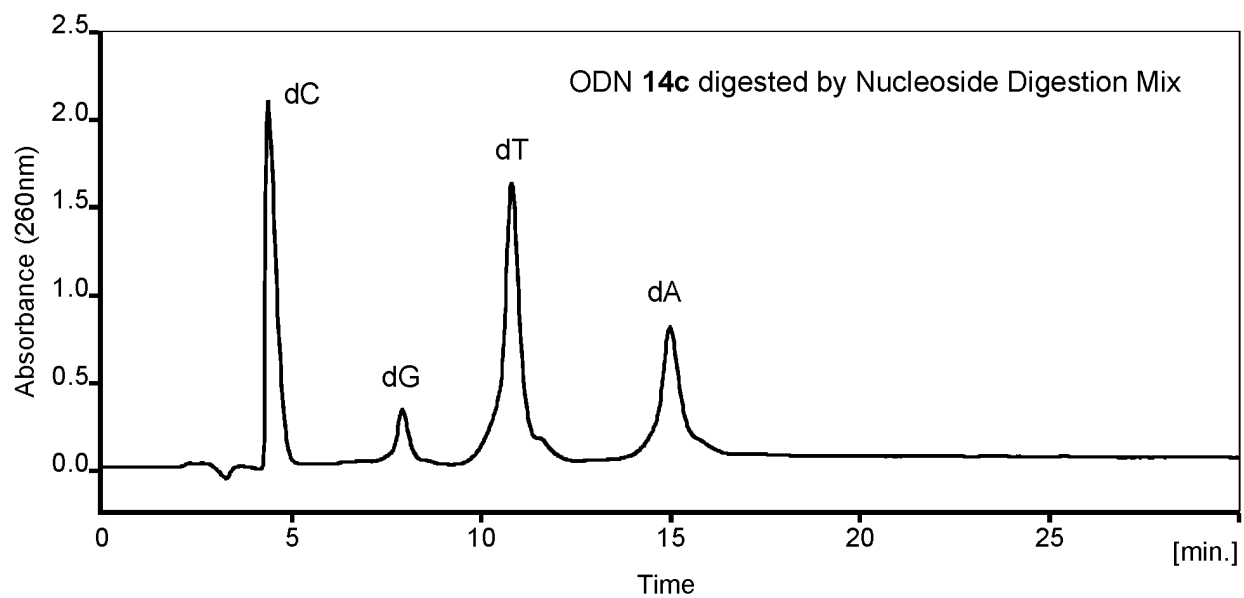


RP HPLC of nucleosides from enzyme digestion of the ODN 14a

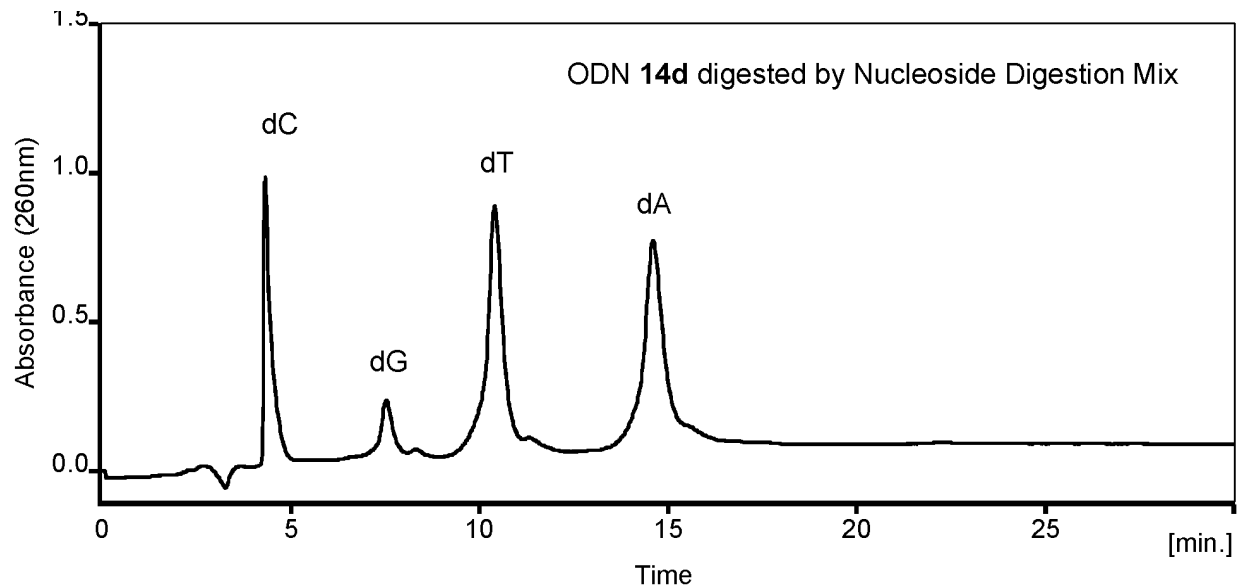


RP HPLC of nucleosides from enzyme digestion of the ODN 14b

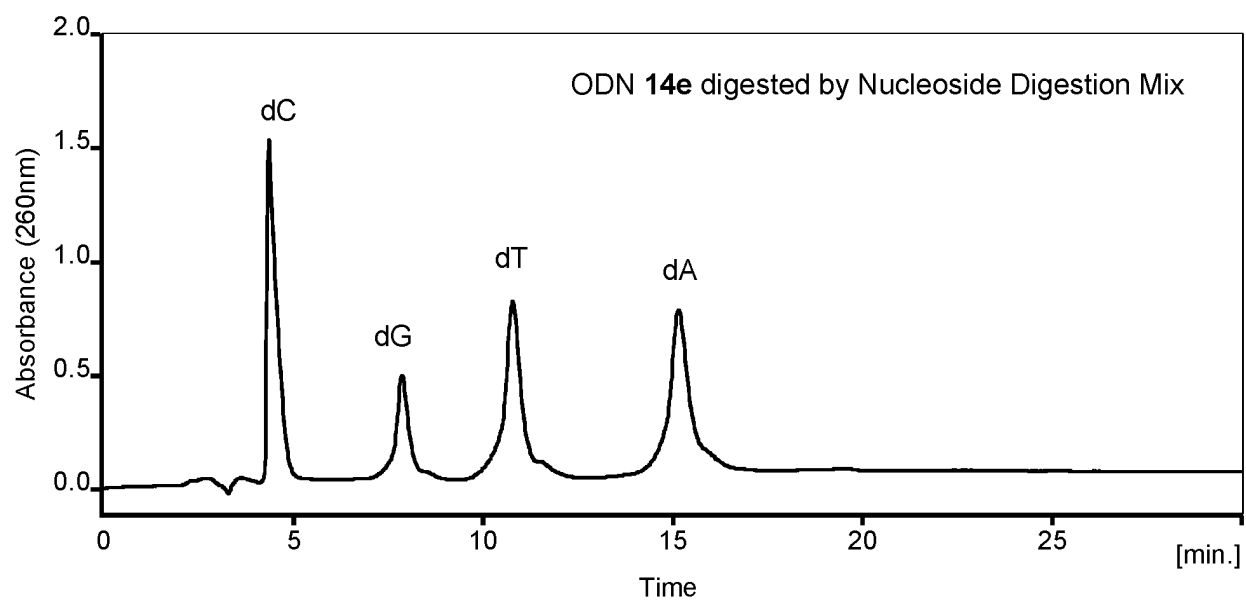




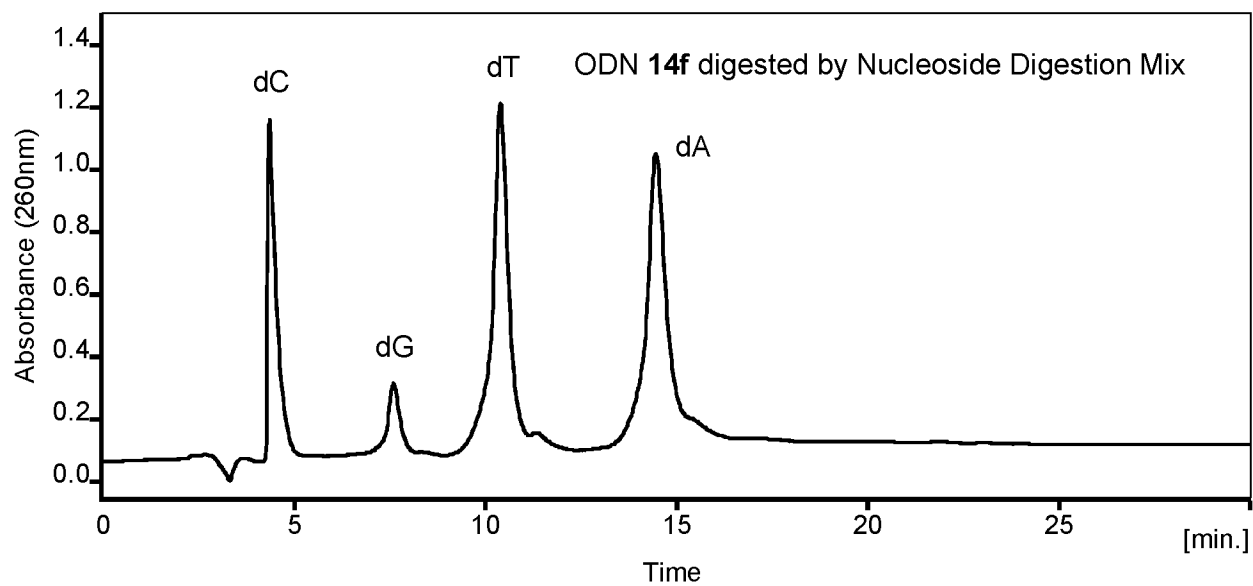
RP HPLC of nucleosides from enzyme digestion of the ODN **14c**



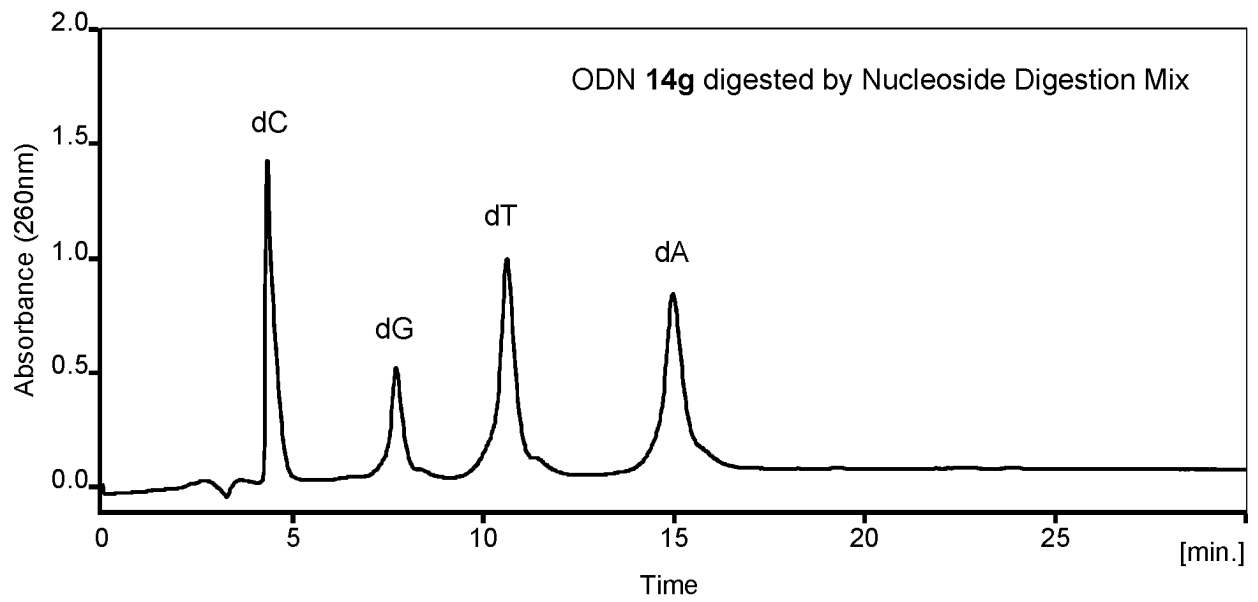
RP HPLC of nucleosides from enzyme digestion of the ODN **14d**



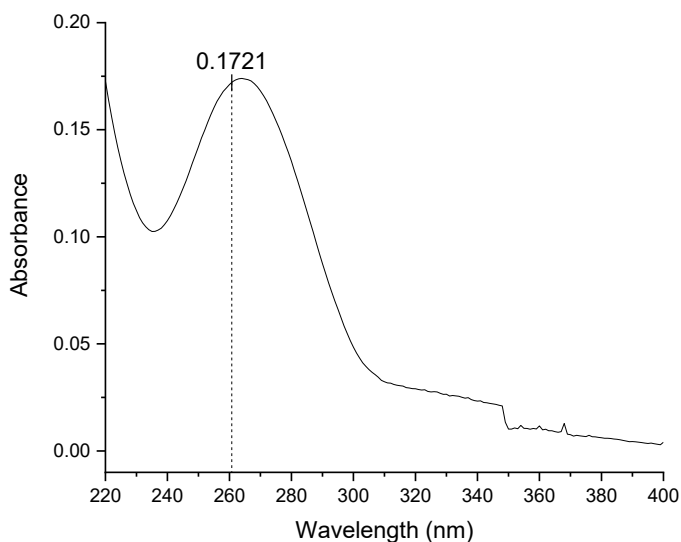
RP HPLC of nucleosides from enzyme digestion of the ODN **14e**



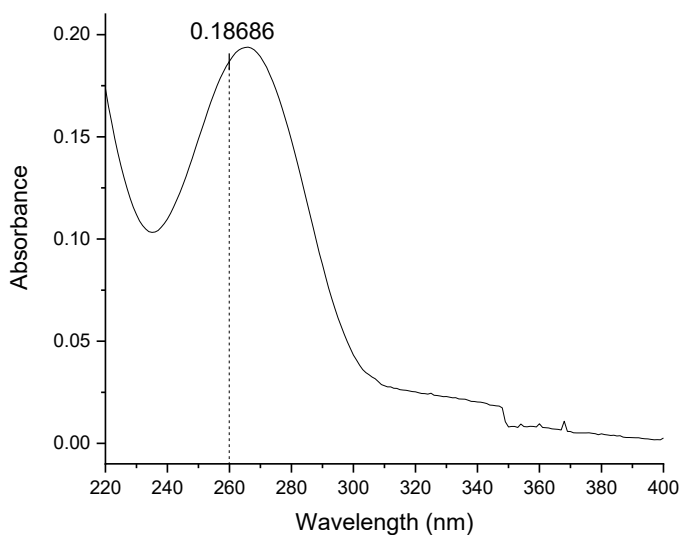
RP HPLC of nucleosides from enzyme digestion of the ODN **14f**



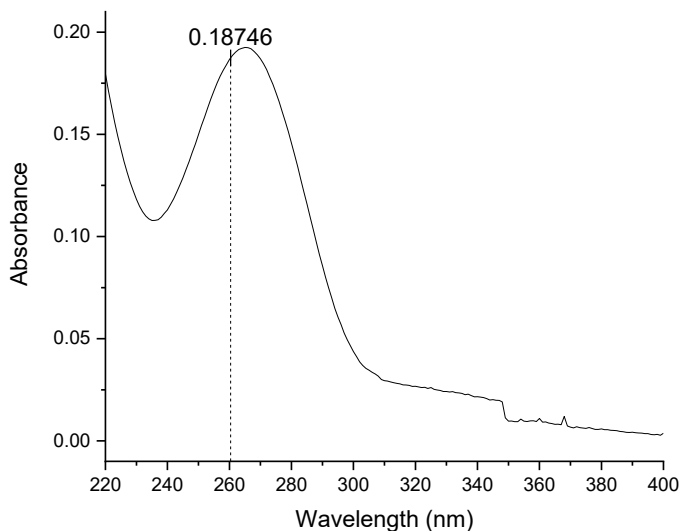
RP HPLC of nucleosides from enzyme digestion of the ODN 14g



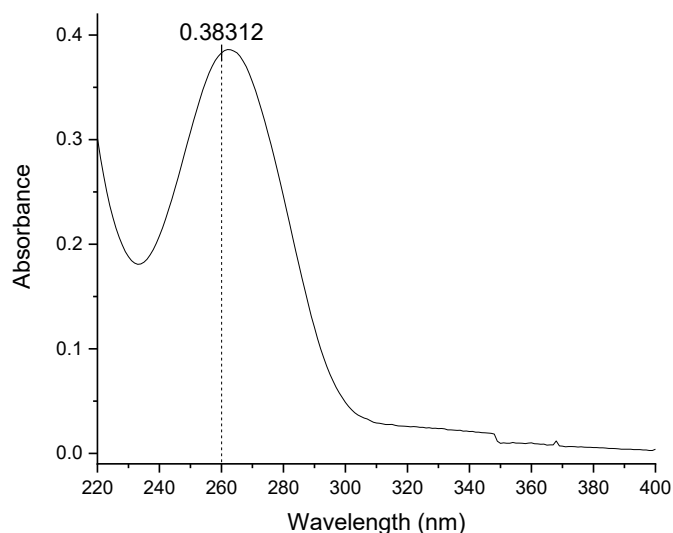
UV of ODN **14a**: CPG (**8**, loading 26  $\mu\text{mol/g}$ , 20 mg) of 0.52  $\mu\text{mol}$  synthesis was divided into 5 portions. One portion was deprotected and cleaved under non-nucleophilic conditions as described in the experimental section. After HPLC purification, the ODN was dissolved in 2.5 mL water and the above UV spectrum was measured. Thus, the  $\text{OD}_{260}$  of the ODN obtained from the 0.52  $\mu\text{mol}$  synthesis is 2.15 ( $0.172 \times 12.5$ ).



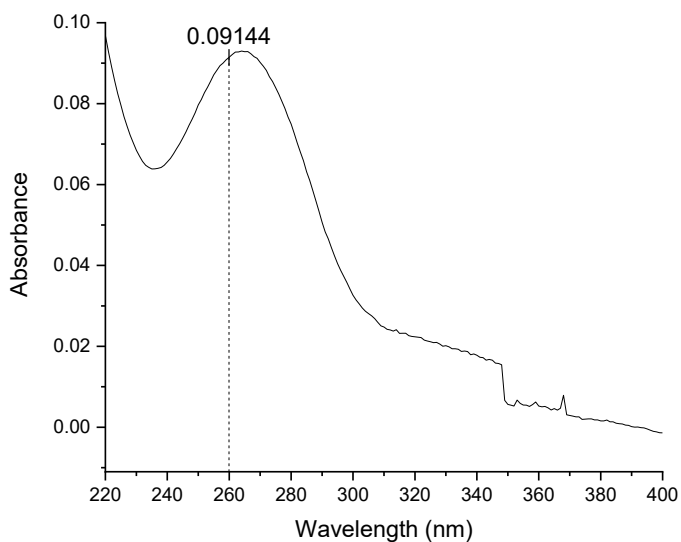
UV of ODN **14b**: CPG (**8**, loading 26  $\mu\text{mol/g}$ , 20 mg) of 0.52  $\mu\text{mol}$  synthesis was divided into 5 portions. One portion was deprotected and cleaved under non-nucleophilic conditions as described in the experimental section. After HPLC purification, the ODN was dissolved in 2.5 mL water and the above UV spectrum was measured. Thus, the  $\text{OD}_{260}$  of the ODN obtained from the 0.52  $\mu\text{mol}$  synthesis is 2.34 ( $0.187 \times 12.5$ ).



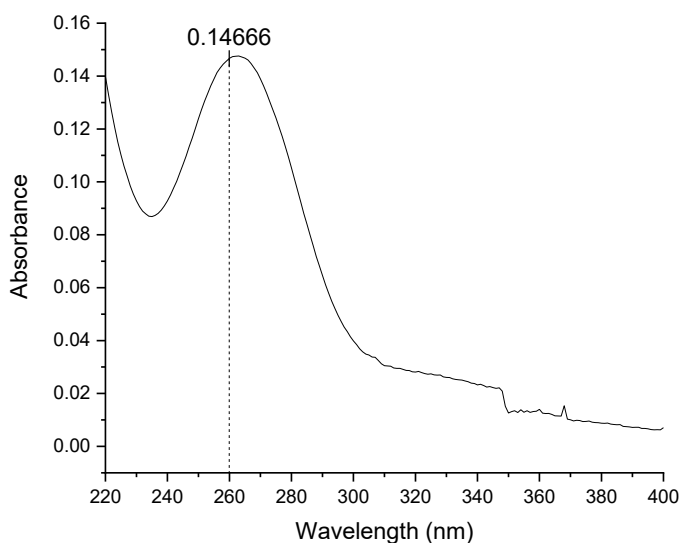
UV of ODN **14c**: CPG (**8**, loading 26  $\mu\text{mol/g}$ , 20 mg) of 0.52  $\mu\text{mol}$  synthesis was divided into 5 portions. One portion was deprotected and cleaved under non-nucleophilic conditions as described in the experimental section. After HPLC purification, the ODN was dissolved in 2.5 mL water and the above UV spectrum was measured. Thus, the  $\text{OD}_{260}$  of the ODN obtained from the 0.52  $\mu\text{mol}$  synthesis is 2.34 ( $0.187 \times 12.5$ ).



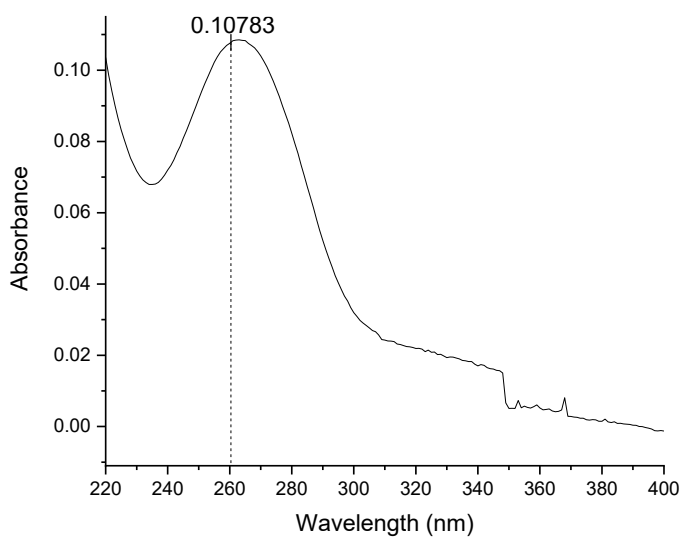
UV of ODN **14d**: CPG (**8**, loading 26  $\mu\text{mol/g}$ , 20 mg) of 0.52  $\mu\text{mol}$  synthesis was divided into 5 portions. One portion was deprotected and cleaved under non-nucleophilic conditions as described in the experimental section. After HPLC purification, the ODN was dissolved in 2.5 mL water and the above UV spectrum was measured. Thus, the  $\text{OD}_{260}$  of the ODN obtained from the 0.52  $\mu\text{mol}$  synthesis is 4.79 ( $0.383 \times 12.5$ ).



UV of ODN **14e**: CPG (**8**, loading 26  $\mu\text{mol/g}$ , 20 mg) of 0.52  $\mu\text{mol}$  synthesis was divided into 5 portions. One portion was deprotected and cleaved under non-nucleophilic conditions as described in the experimental section. After HPLC purification, the ODN was dissolved in 2.5 mL water and the above UV spectrum was measured. Thus, the  $\text{OD}_{260}$  of the ODN obtained from the 0.52  $\mu\text{mol}$  synthesis is 1.14 ( $0.091 \times 12.5$ ).



UV of ODN **14f**: CPG (**8**, loading 26  $\mu\text{mol/g}$ , 20 mg) of 0.52  $\mu\text{mol}$  synthesis was divided into 5 portions. One portion was deprotected and cleaved under non-nucleophilic conditions as described in the experimental section. After HPLC purification, the ODN was dissolved in 2.5 mL water and the above UV spectrum was measured. Thus, the  $\text{OD}_{260}$  of the ODN obtained from the 0.52  $\mu\text{mol}$  synthesis is 1.84 ( $0.147 \times 12.5$ ).



UV of ODN **14g**: CPG (**8**, loading 26  $\mu\text{mol/g}$ , 20 mg) of 0.52  $\mu\text{mol}$  synthesis was divided into 5 portions. One portion was deprotected and cleaved under non-nucleophilic conditions as described in the experimental section. After HPLC purification, the ODN was dissolved in 2.5 mL water and the above UV spectrum was measured. Thus, the  $\text{OD}_{260}$  of the ODN obtained from the 0.52  $\mu\text{mol}$  synthesis is 1.35 ( $0.108 \times 12.5$ ).

