Supplementary Information for:

Site-specific incorporation of *N*-(deoxyguanosin-8-yl)-2-acetylaminofluorene (dG-AAF) into oligonucleotides using modified "ultra-mild" DNA synthesis.

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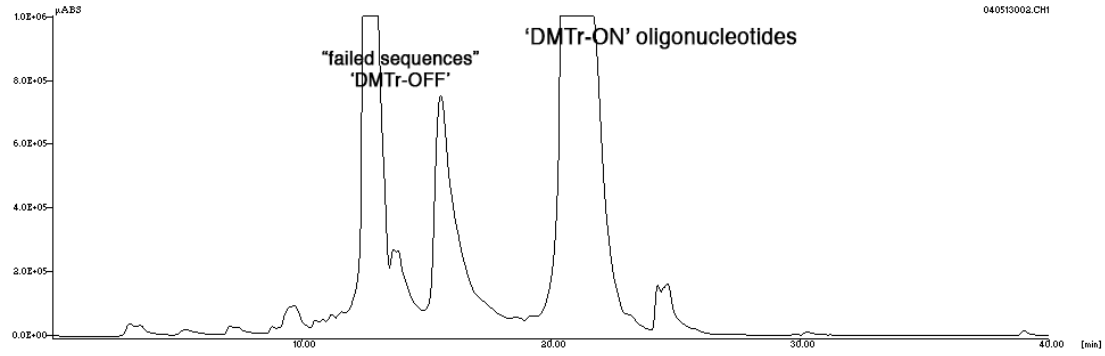
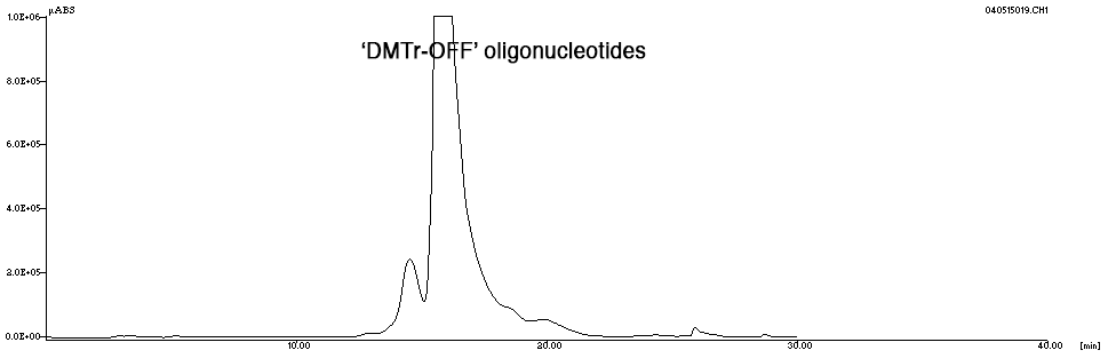
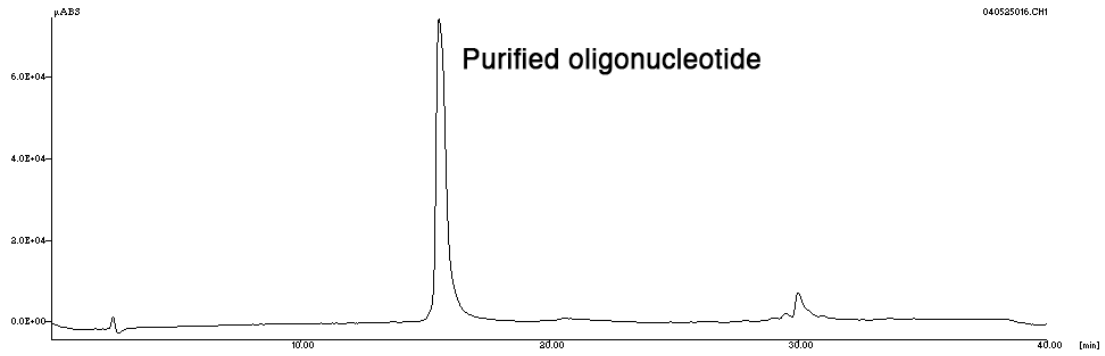
INFORMATION ON MS ANALYSES

The NMR Spectra were recorded on a Brucker ARX-300 MHz, the HR-MALDI on an Ionspec FT MS Ultima. The 9- and 24-mer were analyzed by nanoESI on a Micromass quadrupole time-of-flight (Q-TOF) mass spectrometer in negative mode; the 60-, 90- and 120-mer were analyzed by LC-ESI-MS in negative mode on a Q-TOF-Ultima coupled to Cap-LC (Waters); The LC step of the ESI-MS analysis was performed on a Waters Xterra RP-C18 column (5 µm, 0.32x50 mm), at 60°C with a flow rate of 8 µl/min, with a 0-50% B gradient over 15 min; Buffer A: 25 mM aq. $Me_2NBu.H_2CO_3$ (pH 8.4); Buffer B: CH_3CN. The mass deconvolution was realized on the MaxEnt1 software.

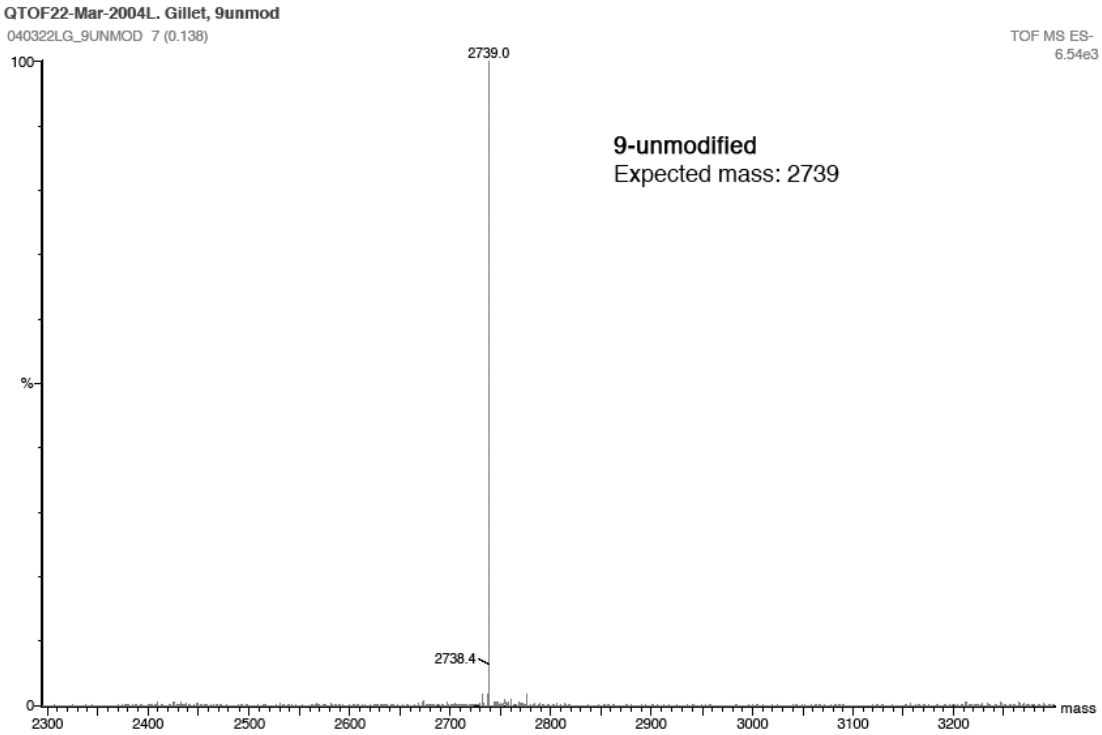
HPLC traces of 24-AAF: crude reaction mixture, after DMTr-On and DMTr-Off HPLC purification

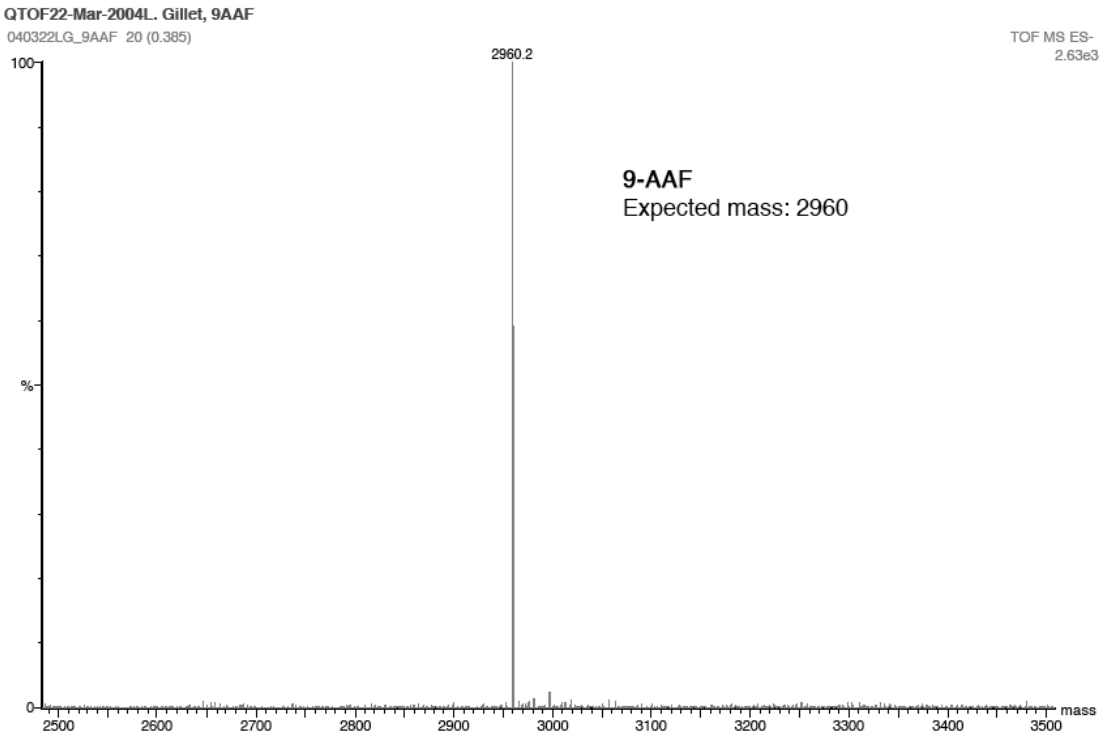




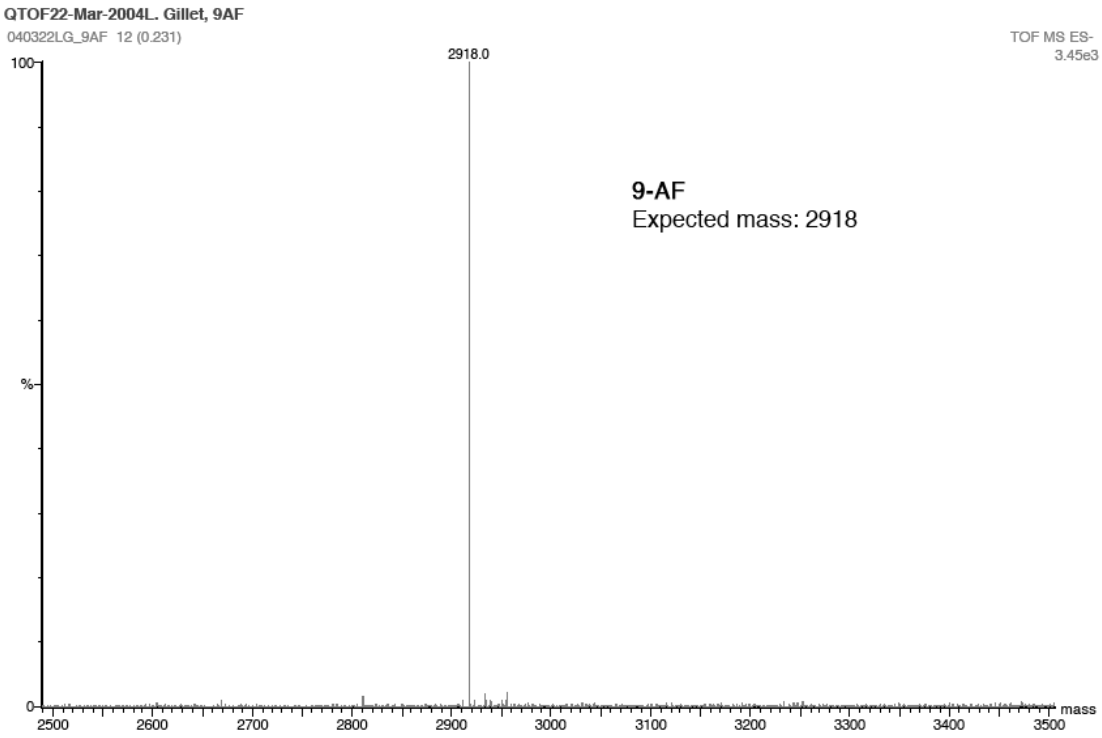


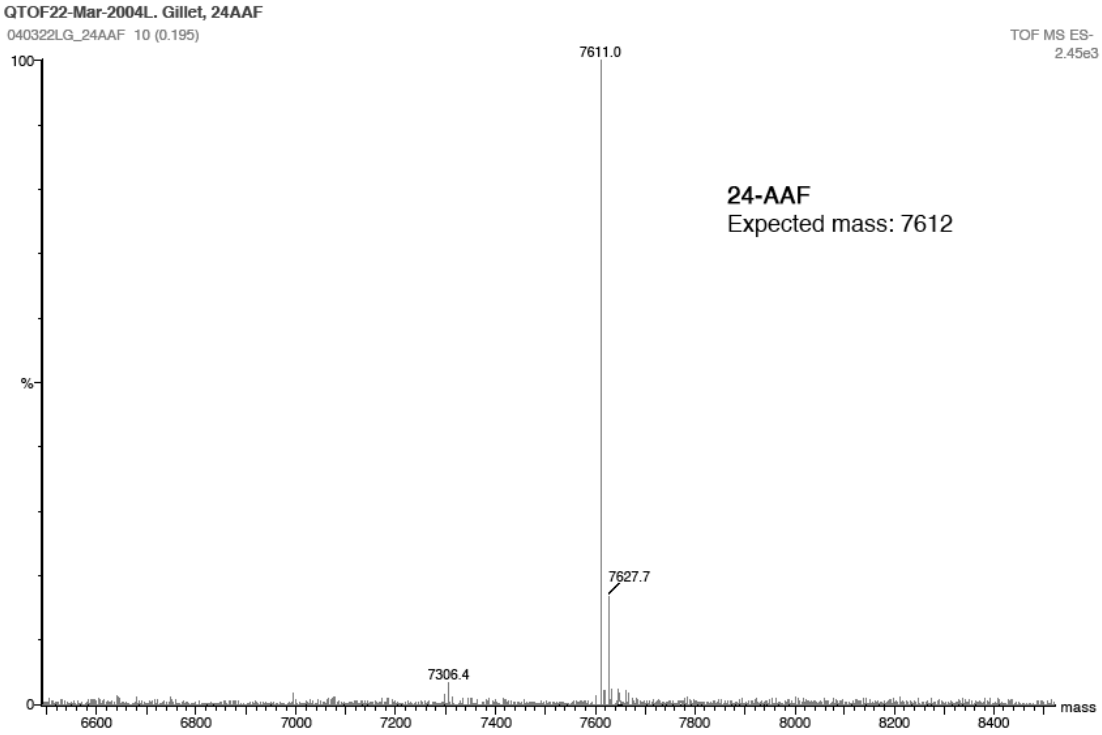
ESI-MS spectra of 9-unmodified and 9-AAF



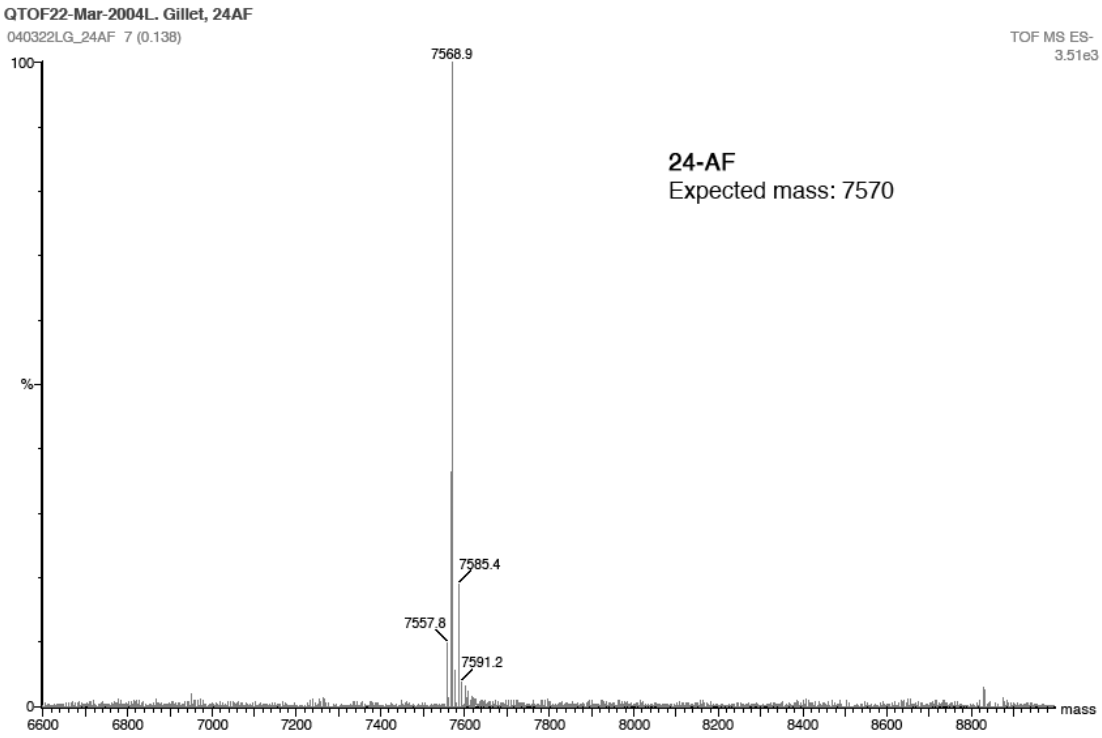


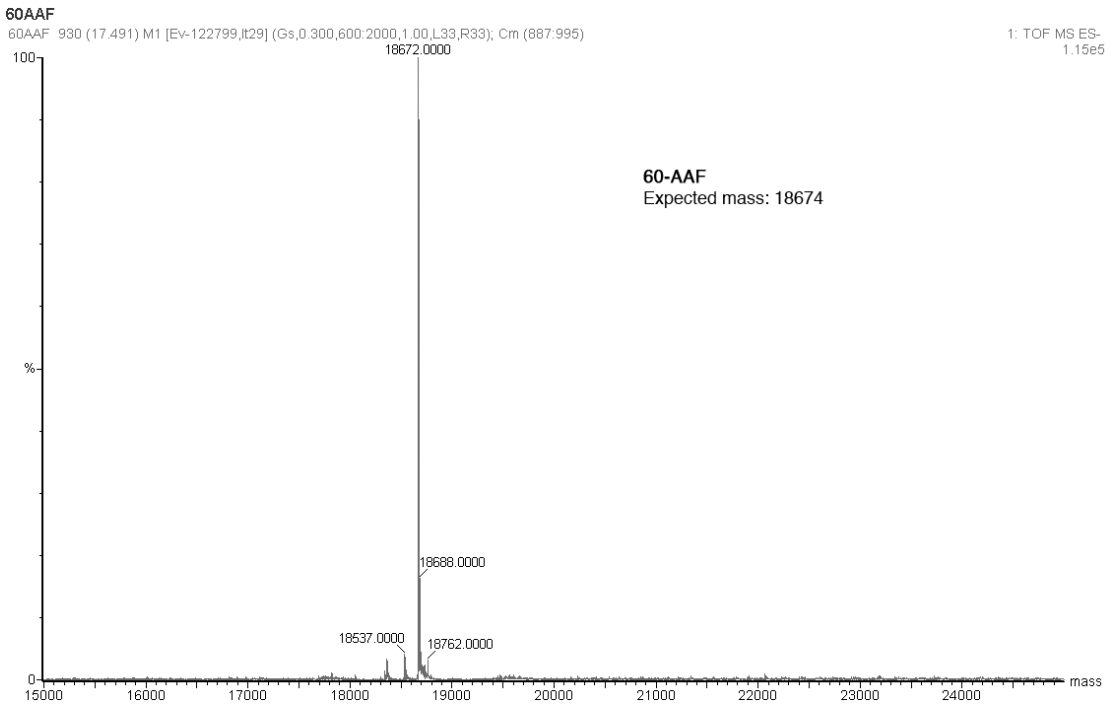
ESI-MS spectra of 9-AF and 24-AAF





ESI-MS spectra of 24-AF and 60-AAF





ESI-MS spectra of 90-AAF and 120-AAF